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## EDITORIAL NOTES.

**NEW YEAR'S PROBLEMS.**

Each year brings with it a certain amount of routine and a certain amount of new work—of new problems. Comes now 1910 and extends a welcoming hand and a cheery smile of promise for the future; yet also with some problems of its own. Already the political pot is on the fire and there are symptoms that it will boil early in the year. In every district in the state are members of our society; and, likewise, in every district there are citizens with aspirations toward the legislature. True, the time for nominations seems afar; but that is merely deceptive appearance, for even now plans are being made and influence sought. It is our duty to the people of the State of California to see to it that no one shall be nominated to the legislature who has not had thoroughly explained to him some of the elements of public health demands. Smallpox is steadily increasing in the state and, what is a graver menace, it is becoming each year more virulent in type. During the past year the schools in several towns in the state had to be closed on account of epidemic smallpox. Would it not be infinitely worse if the compulsory vaccination act were to be repealed? Can you not see to it that whoever is chosen to represent your district in the legislature shall know what a grave danger threatens the state and how vitally important it is that we maintain compulsory vaccination? You will remember that the last legislature passed a bill doing away with compulsory vaccination and that it was vetoed by the Governor. But it should not have passed; its passage was a disgrace to a civilized state in the twentieth century. Furthermore, the last legislature made several attacks upon the medical practice act, a law which has been sustained by the Supreme Court in every essential and which is the only barrier between the incompetent charlatan and the people who know not the wise from the ignorant. The law is a good law and treats all alike. It merely says to everyone who would practice upon sick humanity, "Show us that you know enough of the make-up of the human body and its common ailments so that we may know you will do the minimum amount of harm, no matter what form of practice may seem best to you." This point, too, should be explained to those in your district who have aspirations toward the legislature, and their views on these questions should be secured before even they are nominated, if possible; certainly before election time has come and gone. Few laymen know the real facts; and so few legislators know them; there is time to explain the facts before election, but none after the representative has begun his work at Sacramento. Therefore, while it now looks as though there were plenty of time, there really is not; we should begin work at once.

**TO COUNTY SECRETARIES.**

This year it is particularly important that all reports of membership should be sent to the Secretary of the State Society as early in January as possible—and more important that they should be accurate. The Medical Defense feature of the State Society is extended only to those members who have their dues fully paid up, and therefore are in good standing in their county society. If a member is delinquent for three or four months, he is not in good standing during that period of time and should any act of his during that period result in a subsequent suit for malpractice it could not be defended by the State Society. It is obviously necessary that this protection must be extended only to those who are actively and positively identified with the Society and who are in good standing in it. Will the secretaries of all County Medical Societies kindly take notice of this and call the fact to the attention of their members? We shall have to keep very accurate track of all members reported, and of all whose names are not on the official annual reports; these latter will not be covered by the Medical Defense department until they are again reported as being in good standing and dues paid. This is going to add materially to the work in the office of the State Society, and County Secretaries can very greatly help by sending in accurate reports at an early date and by notifying their members of the importance of promptly paying their dues—or losing the protection offered by the State Society.

**YOU CAN HELP US.**

You can help the State Society and your JOURNAL, and therefore incidentally help yourself, by taking an active interest in the advertising pages of the JOURNAL. Look over the advertisements each month; see what is newly offered; use the advertising pages as a sort of directory for firms from whom you buy things or for sanatoriums to which to send patients. Other things being equal, make your purchases from those firms who help to support your JOURNAL by advertising in its pages—and let them know that you do so. All life is a matter of struggling and helping; you help your patient and he helps you to live. Some firms help your JOURNAL; give to these firms your patronage; they are all reliable or they would not be permitted to advertise in your JOURNAL. Write to advertisers for information, for literature, for catalogs, and thus find out what they have to offer and also at the same time show them that you are really taking an interest in them just as they are taking an interest in you and your JOURNAL. Will you do this? It is not much to ask of you, and it will be a great help to the JOURNAL and to the advertiser. Try writing to several advertisers every month and see if you do not think it is worth while.

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**EXPERIMENTS ON ANIMALS.**

The "anti-vivisectionist" may possibly draw awful pictures of frightful dog agony and human brutality, etc., etc., from an article which appears in this issue from the pen of Dr. Bunnell, and based upon research work done by him in the laboratory of Dr. Crile. Never was a more clear-cut example of the value to humanity of animal experimentation. Surgery of the chest, in spite of modern improved methods, presents alarming difficulties and possibilities even to the experienced surgeon. In this present work we have suggested a valuable and simple method of preventing those disturbances of respiration and blood flow which invariably accompany any operation that requires the opening of the chest wall and the exposure of the lung to the air pressure from without. An anesthetic combined with oxygen and given at sufficient positive pressure to equalize the pressure from without has been shown, upon dogs, to be quite safe, to be simple in application, to require no elaborate operating cabinets, rooms, etc., and to keep the lung tissue in a comparatively normal condition during the operation. True, upon practical use of this method it may be found that nitrous oxide does not have the same satisfactory effect upon humans that it has upon dogs; but the chances are in favor of the method rather than against it. If it should prove to be as satisfactory as these preliminary experiments would seem to indicate, will some kind and over-zealous "anti-vivisectionist" please be good enough and let us know whether or not it is worth while to kill a few dogs in order to discover something of such great advantage to the human animal? And if the aforesaid "anti" should, perchance, have to have his chest operated upon, would he not give devout thanks to those experimenters who worked out the safety and convenience of the procedure upon dogs? And also, will he please remember that this work upon dogs *caused the dogs no pain?*

---

**HUMAN FECES AS A CUREALL.**

Through the efforts of Dr. Rupert Blue, of the Public Health and Marine Hospital Service, a practice of Chinese "Doctors," so-called, has been unearthed which for filthiness outclasses anything previously recorded. The odor of certain medicines, securely packed in bamboo stalks and consigned to certain herb specialists, attracted the attention of Customs Inspectors at San Francisco. Flies came from blocks around and when the packages were opened the stench was so terrible that large quantities of formalin were necessary before an examination was possible. Laboratory investigations have proven that these packages contained human feces, highly prized by celestial therapists for the cure of various ailments. For purposes of administration a tea or soup is made of this fecal matter, and it is said that it is a most popular remedy. There is a possibility that certain Oriental diseases may have been introduced in this way, but this has not been proven. Physicians in this state frequently see patients who have consulted Chinese "Doctors," and it would be well to acquaint them with these facts.

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**RABIES IN SOUTHERN CALIFORNIA.**

During the past month the brains and cords of nine dogs have been sent to the State Hygienic Laboratory at Berkeley from Pasadena and Los Angeles. These animals had exhibited marked symptoms of rabies and in each case the characteristic negri bodies were found in the cerebral cortex. Inoculations into rabbits were made in eight cases and were followed by characteristic reactions, the negri bodies being demonstrated in all inoculations. This work has been done by Dr. A. R. Ward, professor of bacteriology in the University of California, assisted by Dr. Hart, whose investigations on this subject have given him an international reputation. Fortunately there have been no human cases, but the presence of the disease constitutes a most serious menace which the local health authorities fully appreciate. Dr. W. F. Snow, secretary of the State Board of Health, reports that all necessary steps have been taken for the suppression of the disease.

**CHEMICAL TESTS FOR BLOOD.**

The importance of the detection and biological identification of blood has for years been recognized in forensic investigations, and it is largely from this standpoint that the subject has heretofore been studied. But now that the diagnostic significance of the presence of blood, especially occult blood, has been generally recognized among clinicians fresh impetus has been given to the study of various methods by which this may be conveniently accomplished. While unaided visual inspection, microscopic examination, and other physical procedures have often yielded the necessary information; and the revelations of the precipitan test have been most interesting and attractive—workers, in view of the limitations for the applications of these methods, have usually turned to chemistry for assistance; and as a result of studies along these lines a considerable number of strictly chemical tests, many old and some new, have been suggested and employed. Experience has shown a few to be most helpful, while others have been found to be of doubtful or no value. Difficult as it is to arrive at any clear conclusions on the subject the recent critical paper of Kastle (Hygienic Laboratory Report, U. S. Public Health and Marine-Hospital Service. Bulletin No. 51) containing the results of much original investigation, is interesting and significant and constitutes a substantial contribution to the matter of which it treats.

The greater number of the chemical tests in use at the present time depend on the power of the blood to induce the oxidation of various chromogenic substances by means of different oxidizing agents of the type of hydrogen-peroxide. In such tests the blood plays the part of an oxygen-carrier. In ordinary practical work the chromogenic substances most often employed have been guaiacum, aloin, the leuco base of malachite green, benzidin, phenolphthalein, etc., and for oxdizing purposes ozonized oil of turpentine and hydrogen-peroxide are generally used. When small amounts of any one of these chromogenic substances are brought together with water and hydrogen-peroxide or ozonized oil of turpentine and a minute quantity of blood, a colored substance is produced the nature and color of which depend, of course, on the nature of the chromogenic material employed. Properly controlled, the development of such a color under these conditions indicates blood, and certainly if no color is produced it indicates its absence.

Numerous theories have been advanced to explain the reaction, but it cannot be said that the chemical reactions involved are fully understood. Schoenbein, the originator of the guaiacum test, contended that the blood acts upon peroxide and other antezonoids after the manner of platinum, in that it converts the antezonoid into an ozonid, or into a compound in which the oxygen exists in the active condition, viz: in the form of ozone, and that the ozone of the ozonoid then converts the guaiacum into a similar ozonoid compound which is blue in color. In view, however, of the work of Schuster, Delèarde and Benoit, Kastle and Amess, and others, it has gradually been recognized that the oxygen carrying power of blood cannot be entirely due to the presence of oxidases and peroxidases, for the reason that the oxygen-carrying power persists after boiling and treatment with acids and alkalies. Indeed, it seems to persist as long as the blood-pigments are not deprived of their iron.

The whole subject of induced oxidations by means of hydrogen-peroxide has been extensively studied by Leevenhart and Kastle, and the view advanced by these investigators is that irrespective of the composition of the carrier the latter acts by first combining with the hydrogen-peroxide to form complex unstable holoxide or meloxide derivatives, which give up their oxygen to the reducing substances more easily than does the hydrogen-peroxide itself. This theory of oxygen carrying is in harmony with the more recent work of Kastle on the subject of peroxidase accelerators. According to this hypothesis, therefore, the function of the blood as an oxygen-carrier in reactions of the guaiacum type could probably be explained most simply and easily on the supposition that the iron-containing blood pigment combines with the peroxide to form a meloxide derivative, which in turn easily gives up the whole or a part of its oxygen to the chromogenic substance with the production of a dye of characteristic color.

Although the guaiacum and similar tests are now extensively employed in clinical laboratory work it has been urged that they are not reliable for the reason that a large number of substances other than blood, such as all oxidizing agents, the halogens, finely divided metals, certain salts of chromium, copper, iron, manganese, and sodium, and certain substances of animal or vegetable origin, give similar reactions. Nevertheless the prevailing opinion among those who have investigated the subject seems to be that these tests are valuable especially if they lead to negative results as proving beyond a doubt that blood is absent. On the other hand, if a positive test is obtained, care should be taken to exclude oxidases or peroxidases by boiling, and the salts of heavy metals and other oxidizing agents by chemical methods, and if possible, to subject the material under investigation to confirmative tests for blood before finally concluding that blood is present.

With reference to the delicacy of the various tests it is apparent that observers are not agreed. In a general way it may be stated that the aloin test is the least sensitive of all, the guaiacum ranking next. The benzidin and pherolphthalein tests, on the other hand, give the most delicate results, both according to Kastle having nearly the same delicacy, although he found that the latter yields a more staple and permanent color than benzidin. With the guaiacum test it is probable that blood may be detected in dilutions of 1 to 2 or 3000 although Liman and Schumm claim to have detected it in dilutions of 1 to 40,000. Using the

benzidin test Schumm detected blood diluted 1 to 200,000 times, and Ascarelli 1 to 300,000 times. With phenolphthalin even more delicate results have been obtained. Thus Deléarde and Bénoit state that they were able to detect blood at a dilution of 1 part to 1,000,000, and Kastle says that he obtained a positive result with this test at a dilution of 1 to 80,000,000. Although positive results have been obtained in high dilutions with the various tests it should be pointed out as emphasized by Kastle that testing for blood in pure aqueous solutions and testing for it in various normal and pathological secretions and excretions are quite different affairs the results of which are not comparable. For instance he has shown that urine sometimes contains substances which inhibit the test to a considerable extent.

Studying the delicacy of the phenolphthalin reaction for blood in different secretions Kastle has found that positive tests may be obtained in urine in dilutions of 20 parts in 1,000,000, an amount much smaller than could be recognized with certainty by spectroscopic or microscopic methods of examination. Blood was also demonstrated by the same test when present in the proportion of 36 to 1,000,000 of saliva, 1 to 25,000 of milk, 1 to 1750 of gastric contents, etc. In short, this observer regards the phenolphthalin test, notwithstanding the unfavorable opinion of Pozzi-Escat, as one of great practical utility. After having experimented with many varied substances he concludes that by no other methods, unless it may possibly be the spectroscopic or precipitin tests, could the different materials employed have been examined with such conclusive results in the time actually consumed in making the tests with phenolphthalin.

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**THE TREATMENT OF WOUNDS.**

In the report of the Twenty-first Congress of French Surgeons, Dupuy, of Paris, publishes an interesting account of his experiences with the electric light in the treatment of large wound surfaces which have proven rebellious to other methods. He induces hyperemia by employing a thirty-candle-power lamp placed ten centimeters from the wound. As soon as a serous exudate appears the lamp is removed to twenty centimeters and when a thin plaque is formed the distance is increased to fifty centimeters and kept in this position for five to ten minutes. This mode of treatment has given excellent results but he emphasizes the dangers of using a higher candle-power, of prolonging the seance and maintaining the lamp too near the tissues.

The method appeals to one as being rational because, like the extensive work of Bier, it is based upon scientific principles. It is of interest to trace the important advances which have been made in the treatment of wounds but it must be admitted that many surgeons have clung to old methods years after the great thinkers have pointed out their fallacies. It takes courage and strong conviction to protest against an established custom; there are few who, though they might possess the necessary insight, would have the temerity to do so. Ambroise Pare was one of these. In his "Journeys in Diverse Places" he tells how, after the battle of Turin, 1537, when he was but twenty-seven years old, he was called upon to dress wounds on the field for the first time. He found it the custom of other surgeons to pour boiling oil upon fresh wounds and he proceeded, after some hesitation, to do likewise. Fortunately his supply of oil ran out before he had completed his dressings. "That night I could not sleep," he says, "fearing some default in not cauterizing and that I should find the wounded on whom I had not used the said oil dead of the poison of their wounds." He rose very early the next morning and found that those on whom the oil had not been used were doing well while those who had received the treatment were feverish, with great pain and swelling. "So I resolved," he adds, "never more to burn thus cruelly poor men with gunshot wounds."

The result of the use of boiling oil was tissue necrosis. The results of the employment of strong antiseptic agents on wound surfaces are the same. The difference is only one of degree. Halsted long ago made a violent protest against the use of antiseptics. He states, "We have ascertained from our experiments on dogs that irrigation with solutions of corrosive sublimate as weak as one in ten thousand produces a superficial necrosis." (Johns Hopkins Hospital Reports, Vol. II.) We know the value of his words to-day and yet it has taken nearly two decades for practitioners to appreciate them.

Even when the great Senn delivered the Lane Lectures at Cooper Medical College in 1899 he devoted much time to a discussion of various antiseptics. Textbooks still contain references to such treatment and many follow blindly these set methods of procedure. We pride ourselves on being free from empiricism and yet this routine, unthinking practice furnishes no better example. It is high time that deep cut or denuded and abraded surfaces should receive the same care and discrimination, the same thought and painstaking treatment, as now characterizes other fields of surgery.

## ORIGINAL ARTICLES

### LAMBOTTE METHOD.*

By WM. LEMOYNE WILLS, M. D., Los Angeles.

The subject to which I ask your attention is the logical surgical treatment of fractures, both recent and old, simple and compound, by the *Open Method*, with an absolutely certain retention apparatus, designed and used for years by Dr. Albin Lambotte of Antwerp, Belgium.

The cutting down on ununited fractures and wiring the ends of bone, has been the recognized treatment for years, in many cases obtaining good results, but in many instances the wire causes trouble and a sinus forms and the wire has to be removed after callus has formed, etc. Usually, however, there is a pointing of bone and loss of length. Some surgeons use metal or iron pegs or screws, and other good surgeons use staples.

At the 1908 State Society meeting, my friend, Dr. Thomas W. Huntington of San Francisco, presented a paper on the treatment of fractures of the femur, by the use of steel staples. I had at that time one case to report in which I had used the Lambotte apparatus, but was too late for the programme and in the discussion of Dr. Huntington's paper, showed the Lambotte fixateur, and contrasted it with Dr. Huntington's smaller wound and method.

Advantages of open method are:

1. Absolute knowledge as to character of fracture.
2. Ability to adjust and maintain correct apposition.
3. No splint needed and daily or hourly inspection possible.
4. Less painful, no traction nor counter traction necessary.
5. Shortens convalescence and enables patient to be put in wheel chair and go in open air in ten days. Hence it is an ambulatory method.
6. *All* foreign substances removed.
7. Enables surgeon to use massage at any time, especially useful when near joint.
8. Minimum loss of length or change of angle.
9. Applicable to all fractures, recent or old, simple or compound of the long bones.
10. Simply makes all simple fractures compound.

When once the two methods are placed in contrast for old or ununited fractures of long bones, the chief differences are (for staple or wire or peg method of maintaining fragments in apposition) the smaller incision and the retention in the bone of wire or peg, which may later on cause trouble, whereas, with Lambotte apparatus, a somewhat longer incision, with the placement of three or four, or even five or six drills, screwed into the bone; skin and muscle closed about them, and after from five to seven weeks the hand drill is placed on the drills, action reversed, and they are withdrawn and the holes in bone in which they were, fill up and case is closed, no foreign substance remaining in the bone or wound.

The whole matter resolves itself into the ability of the surgeon to make a larger aseptic wound and to keep it so.

Another great advantage, second only to the certainty and variety of fracture, and its replacement, and the retention of ends in absolute apposition, is that the surgeon can see and inspect the wound and part every day and use massage and not be hampered by any more or less comfortable splint. All that is necessary is a pillow or two, and two sand bags.

No extension or counter extension necessary, as the bar clamped onto the arms of the drills makes extension and retains fragments immovably in apposition; in other words, bridges the (fracture) gap and makes the reinforced bone, the splint.

One of the most frequent causes of non-union is the interposition of a muscular band or fibre, or sometimes a nerve or tendon which effectually prevents union.

By the open method this is prevented and one can see the actual condition and remedy it. The X-Ray has its place and should be used first.

Granted that it is proper to cut down on an old, faulty, or ununited fracture and use such a retention apparatus, it is only a step farther to adopt same method in recent simple fractures. It is thought to be unnecessary and too radical by the same kind of doctors, as would trust to nature, not to tear a perineum, when at tearing point rather than do an episiotomy with a sharp scissors and sew up a wound of election and keep the perineal centre in-

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

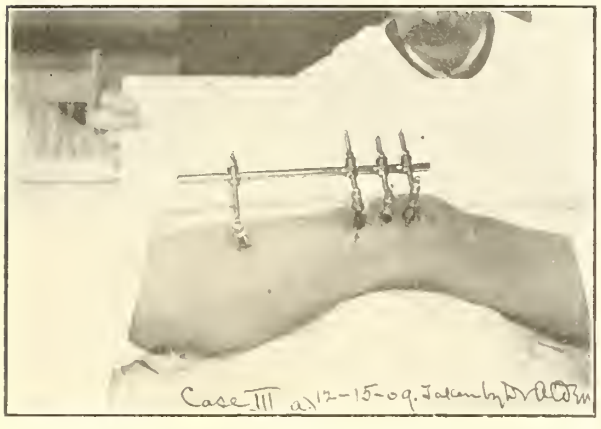
tact; which once injured is never repaired except by skin and scar tissue repair.

The chief objection is that this *open method* is unnecessary, over-radical, and dangerous. I make no claim for its habitual use, but think it is much safer to know exactly the conditions, kind of fracture, and be able to extend, lever fragments into place, otherwise impossible of perfect adjustment, than to guess about it and have (as a good result) from one-half to one and one-half inches of shortening. While the timidity to do a radical operation would deter many, such a method in hands of a competent, clean surgeon, would prevent many damage suits and obtain better results—well nigh ideal.

I have had, to date, seven cases which I will report to you—not enough you will say to base an opinion upon. I grant you so. Two were old, ends which had slipped past and large calluses enclosed ends of bones which never would have had a good union. The third case was thirty hours old, a fracture into condyles of right femur, joint capsule torn, and lower fragment tipped backward by gastrocnemii heads and drawn up behind shaft. Apparatus applied, wound healed, and man out in chair in ten days and no splint used except a double inclined plane for eight hours.

I base my assertions largely on Lambotte's statistics. Up to 1907, when his book was published, he had treated 186 cases of all kinds of fractures by this *open method* and apparatus with success, and but one death caused by internal injuries sustained at the time of fractured bone.

I saw this surgeon demonstrate this method on cadaver at the Brussels International Surgical Congress, 1905, and went to Antwerp next day to see several such convalescent cases in the Stuyvensberg Hospital, and afterwards bought apparatus in Paris.

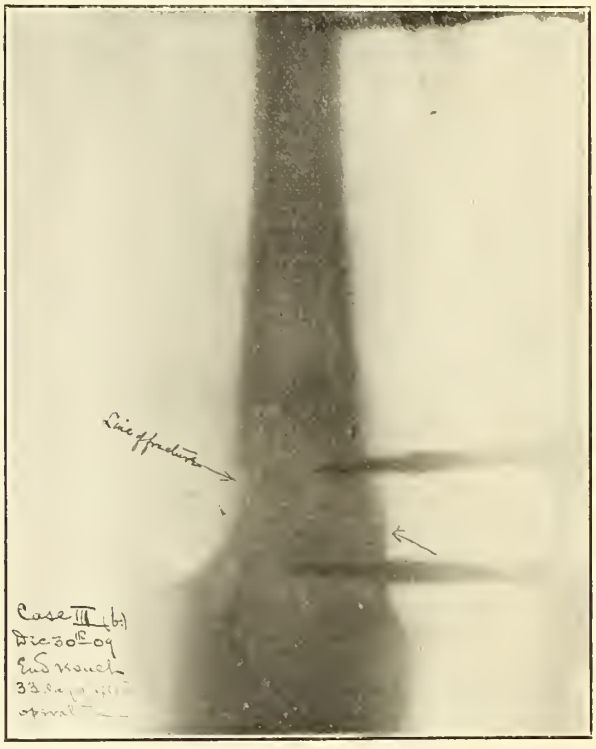


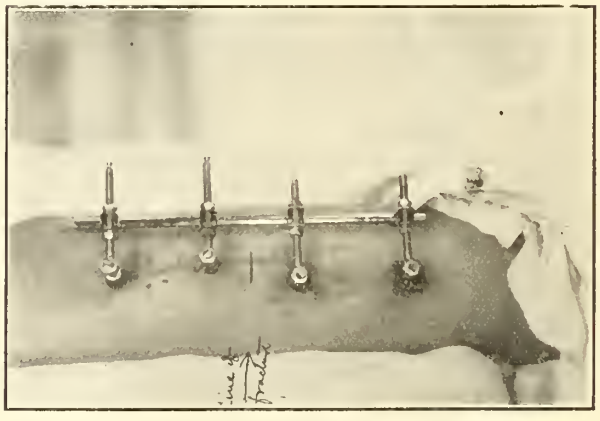

Antwerp is one of the greatest ports of Europe, so that the number and variety of fractures is great, and Lambotte has a wealth of material for the display of his resourcefulness and genius. I think this the best method to date. You will pardon me if I seem over-enthusiastic.

After waiting two years for a suitable case, I went to Alameda County Hospital and placed it on a Los Angeles carpenter with ununited fracture of middle of right femur.

I have had to date—April 20th, 1909—seven cases, which I will summarize as follows:

Three un-united cases, old with large calluses, with ends overlapping from ½ to 1½ inches, as shown by "X" Ray-Cases one, two and six. Case three, fracture of right femur (kick of horse) three inches above knee joint, extending into external condyle, joint capsule torn open. Operated on



thirty hours after injury. Tissues much bruised and surcharged with blood. Operated on by "Lambotte" method at Good Samaritan Hospital. Patient out in chair in ten days, apparatus off in thirty-four days and walking with crutches in six weeks. Ideal result, no shortening, was treated in private hospital; convalescence interrupted, never any temperature nor sepsis. "X" Rays show.

Cases four, five, six and seven were treated in Surgical ward of County Hospital, between January 1st and April 20th. Of these cases, the fourth had been injured two weeks before I saw him, with no treatment at all given him. Man fell from third story of building and fractured right femur in middle third and seriously damaged muscles, which almost immediately broke down and suppurated. The suppuration prevented union of the bone and I was obliged to remove the "Lambotte" apparatus and reapply it. Union proceeded very slowly but surely.

Of these four cases, two had some suppuration and two did not. One case absolutely perfect in whole course of repair and an ideal result. Absolutely no shortening and perfect functional result.

In the two cases which had infection, the soft parts were very seriously injured by the vulnerating body, wagon wheel and fall respectively. In other two, not so.

Case five was perfect throughout, apparatus off in forty-three days (slow callus formation) absolutely aseptic and was walking on leg in one week after "Lambotte" apparatus was taken off.

Four pictures show case V.

Case six, un-united fracture of right leg, made good repair.

Case seven, run over by wagon wheel of lumber wagon. First two weeks ideal, then owing to pain and too much moving in bed, set up trouble. Some sepsis, but progressing favorably at close of report.

Discussion.

Dr. T. W. Huntington: As work done along this line by me has been mentioned by the reader, I will say a word with regard to points which I consider essential in the operative treatment of recent fractures, especially of the femur. It is manifest

that the highest requirements of operative fracture treatment is absolute asepsis. I must protest against the statement of the reader that "a little pus does not amount to much." It is not possible that such doctrine can be maintained; and furthermore, we all know how grave conditions ensue upon slight foci of infection. If the surgeon cannot afford almost absolute immunity from infection in these cases, the propriety of operative treatment of fracture will be left in serious doubt. The method advocated by the reader seems to possess essential technical faults. Several avenues of ingress for infection are left open for from ten days to three weeks. This, of itself, is sufficient reason for discarding the Lambotte clamp. The author reports twenty-five per cent of infections in his operative wounds, a record which certainly needs no comment. In operative cases, I prefer, for myself, the steel staple which permits of perfect wound closure and ideal wound healing.

Dr. H. M. Sherman, S. F.: I have had so many conversations with Dr. Wills about this method, that it seems like going over old ground. I do not see how it is possible to put into the femur the apparatus which Dr. Wills has presented, without getting infection of the drill track in every one of the cases. I stated, when reporting my method of treating hip dislocations, that I always got a little sinus in the track of the nail. Based on that experience it seems to me that Dr. Wills should always get an infected sinus. My drill went into the cancellous tissue where the granulation tissue builds up rapidly. I have had no accident, but in the next case it may prove to be the vulnerable point. This drill of Dr. Wills goes into the cortex of the shaft and it must cause necrosis; if it penetrates the medulla there is osteomyelitis at hand. I congratulate Dr. Wills upon his result which he shows us. Nothing could be better, but I should prefer myself to have a staple in my femur rather than this apparatus.

Dr. A. S. Lobingier, L. A.: I would like to call attention to the fact that the Lambotte clamp is an improvement upon the clamp devised and used by Dr. Clayton Parkhill, 17 years ago, at which time he reported nine cases operated on without sepsis. I saw a number of his cases and no infection had occurred in any of them. I think his report was made before the American Surgical Association. I think the doctor meant that he had had no more infection than Dr. Sherman referred to,—a trifling discharge from the post holes which curetting once and syringing out would clear up. I have had five cases which I operated with the Parkhill clamp. I do not consider it as good as the Lambotte clamp Dr. Wills. But I had no infection in the five cases beyond what I have already referred to. There was no exuding of pus, only a little serous discharge which one curetting and syringing out cleared up within three or four days. I cannot believe this is not a useful apparatus. I believe that we shall find in some cases that it is better than the staple or the plate and that it is of value and should not be condemned.

Dr. Wills, closing: Suppose you do have a little sinus leading down to the bone, suppose you do have a little softening and chipping away of the periosteum, you do not have a temperature and the case goes on to recovery. In two cases I had abscess simply because a lumber wagon wheel went over the thigh, seriously bruising the muscular tissue and the manipulation caused a certain amount of suppuration. In one case I had to put the drill on again. I understand Dr. Huntington's position in this matter. He is a teacher and he can not teach his students not to mind a little pus. But in these cases if you do not have temperature you have no shortening and shortening is the end result. Dr. Huntington saw one of these cases and it happened to be a man who had a sinus down to the bone because the man did not do as he was told, but he went to San Francisco and got drunk. I had another man who had a sinus because he walked and left the treatment and our observation. I am not saying that this method is perfect but I do claim that if I had my femur broken to-morrow I would have this apparatus on it. The point of the drill does go into the medullary cavity of course, but I deny that you get an osteomyelitis.

## THE PROBLEM PRESENTED BY THE TUBERCULOUS RAILWAY EMPLOYEE.

By ROBERT A. PEERS, M. D., Colfax.*

I do not know when or where the first Hospital Association for the care of sick and injured railway employees was formed, nor is it relevant to the subject-matter of the paper I have to present to you this afternoon. It is, however, pertinent to say that to-day practically every corporation, railways, steamship companies, steel plants, mining and lumbering companies, has established for the care of its sick and injured a hospital or benefit association, whereby each member for a certain stated monthly sum, subtracted from the wages by the corporation, is guaranteed in case of illness or injury the necessary nursing and medical attention with accommodation in the Hospitals of the company without further expense. That this co-operative plan for the care of the unfortunate employee is of great benefit to the employee himself is obvious. A large percentage of the men working for a monthly salary either cannot or do not save for the proverbial "rainy day"; and to these the provision of hospital accommodations, skilled nursing, and scientific professional services not only solves a problem in economics but also in a large number of cases means the actual preservation of human life. In the medical and hospital service furnished the railway employee is to be seen, perhaps, this plan developed in the most thorough manner. The hospitals furnished by the railway companies will compare favorably in appointments and in results obtained with any others; while the personnel of the hospital staff includes surgeons and men skilled in internal medicine who are the equal of those connected with any other institution. This is due to many causes; partly to the large number of men employed in connection with the railway service, many thousands of men often being employed by one company, thereby furnishing the association with large funds for hospital purposes; partly to the permanence of railroads, which are not short-lived like many mining and lumbering companies which depend for existence upon a limited amount of ore or a certain acreage of forest land, but are lasting institutions which once established are practically never abandoned; and also to an appreciable degree to the liberality of the railroad company itself which exhibits in many other ways, such as the establishment of reading rooms and club rooms, its practical interest in its employees.

In order that the benefits provided by the Hos-

*Medical Director, Colfax School for the Tuberculous.

pital Association may not be furnished to those not entitled to treatment certain regulations are provided designating those who are not entitled to any benefits, and those who are entitled to professional services but not to hospital accommodations. In the second class is to be found the tuberculous railway employee. That this was a wise provision when cases of early diagnosis were rare, and where only far advanced cases were recognized or perhaps it is better to say when patients suffering from tuberculosis did not quit work until in a very far advanced stage, thus bringing about a condition where patients in the most dangerous stages became charges of the Hospital Association; that such a provision in the case of the tuberculous railway employee was wise is not to be doubted. But that to-day when, by improved methods of diagnosis and more thorough knowledge of the disease, the existence of tuberculosis can he confidently diagnosed before the presence of tubercle bacilli can be demonstrated in the sputum, or even before there is either cough or sputum, that there can be necessity, from the standpoint of danger of infection, for excluding cases of early tuberculosis is no longer tenable, and even in moderately advanced cases, where patients exercise the proper amount of care in coughing and in the disposal of the sputum, the danger becomes practically nil.

The difficulty of determining the date of infection, many cases lying dormant for years after infection before developing an activity sufficient to seriously impair the employee's health and to cause him to seek treatment, has also in all probability been a determining factor in the exclusion of these cases. Bearing these circumstances in mind the patient could be excluded from benefits because he is suffering from a chronic disease contracted before he entered the service of the railway companies. Doubtless also the chronicity of tuberculosis, especially those fibroid cases where patients are incapacited for years, militated against the acceptance of these cases.

While there may he doubt as to the advisability of allowing the tuberculous railway employee admission to the company's hospital, there is no doubt that there is no class of cases in which hospital care is more indicated, or in which the response to hospital treatment is more marked, than in cases of early tuberculosis. The most common predisposing cause of tuberculosis is overwork or overplay, or a combination of both,—that is, anything that puts too great a strain upon the human organism without sufficient compensating rest. And on the other hand the most important single factor in the treatment of tuberculosis is rest. To this statement I do not make an exception even in favor of fresh air. Rest in bed during fever or where there is much emaciation, and rest with carefully graduated forms of exercise where there is no fever, is without doubt the measure of treatment par excellence. Granted an early diagnosis, that is, an incipient or only moderately advanced case of tuberculosis, and the possibility of three months' rest in a hospital, with the training that necessarily accompanies those three months' rest, and the majority of such cases will be given a start that will end in recovery. Denied the privilege of hospital advantages and being forced to bear the financial burden himself, the patient suffering from tuberculosis in the curable stages is prone to postpone treatment or else to temporize with short vacations until he passes from the easily curable to the incurable stage, or at least to a point where years are required to repair the damage done.

With the idea in view of obtaining statistics as to the percentage of railway employees who contract tuberculosis while in the employ of the companies I sent a circular letter to each of the Chief Surgeons of our western railways in which the question was asked, "If you can secure the information without too much trouble, would you inform me what percentage of employees working for your company contracts tuberculosis or shows evidence of tuberculosis infection while in the employ of your company?" The replies received indicated that there were no statistics bearing on the subject from which an estimate could be made. I have been unable in any literature available to me to secure tables bearing on the mortality or morbidity from tuberculosis among railway employees. Neither could I obtain any figures from the National Association for the Study and Prevention of Tuberculosis. That it exists in about the same proportion as among persons holding life insurance policies, and who have to come up to a physical standard equal to that required of the applicant for employment in the railway service, is probable. The frequent deaths from tuberculosis among policy holders have induced the insurance companies to consider the question as to the advisability of establishing sanatoria for the arrest and cure of the disease when contracted by individuals holding policies—it being considered cheaper to cure the patient than it is to pay the amount of the policy because of the death of the holder. Personally, in a practice where I see a limited number of employees professionally each month, I meet with several cases during the year.

Question II of the circular letter asked, "What special provision, if any, is made by your company to care for the employee who falls a victim to tuberculosis?" Special provision was being made by only one company and that one had tents provided for its tuberculous employees. To the third question, "Do your hospitals admit and care for employees suffering from tuberculosis?" the universal answer was "No."

The fourth question was divided and considered under three headings:

(a) Do you think special provision could be made for tuberculous employees out of the available hospital funds?

(b) If not, do you think the employees would submit to a special hospital fee to be taken from their monthly wages—such fee to be used solely for the care of employees who contract tuberculosis while in the employ of the company?

(c) How many employees would be affected in case the special hospital fee plan was feasible? The

replies to (c) may be disregarded as they were not complete. The replies to questions (a) and (b) indicated rather that the matter had probably never been previously considered and that the writers were not prepared to make positive statements. The general opinion appeared to be, however, that it would be more practicable to use the available hospital funds than to make an additional tax for the purpose of securing funds to care for tuberculous patients.

The desirability of some place where patients could be received and maintained from the hospital funds is very well illustrated in the following case: Patient T. S., occupation, fireman on ferryboat; was referred to me June 21, 1908. Gave history of having "caught cold" in Nov., 1907. After three days raised blood. One month later had quite profuse hemorrhage. Because of lack of funds patient continued at work until two or three weeks ago. Has never lost cough—which is worse in morning. Examination showed tuberculous looking individual with pulse 120, temperature 99.8—weight 143½. Examination of chest disclosed tubercular infiltration of both lobes of left lung and right upper lobe. Patient was given advice that he should be in some institution where he could have absolute rest in bed and appropriate nursing and medical services. No funds being available for this purpose he was placed in a boarding house with instructions as to rest, diet, and fresh air, where even under unsatisfactory conditions his temperature dropped to normal, his cough and expectoration decreased and his weight increased. Denys B. F. was administered as soon as the temperature dropped and the improvement became much more marked and more rapid. He practically lost his cough, his weight increased to 158½—a gain of fifteen pounds—when the brother who was furnishing the funds lost a forefinger and the patient being deprived of funds was compelled to return to work. In July of this year he returned to Colfax with a history of having "caught cold" in May when the symptoms returned with renewed vigor. When I saw him in July he weighed 130 lbs., had pulse of 144, temperature 103.4, and was too weak to stand a physical examination. Upon my advice he returned home as he evidently had but a short time to live. In my mind there is little doubt that had this patient been able to spend three months in a properly conducted sanatorium, with the opportunity to learn the lesson of right living, when he was first taken ill in Nov., 1907, and then had he taken three or four months more, as he could have done before his brother's accident, in completing the arrest, he would probably to-day be living and well.

The number of cases of tuberculosis is so great that there will probably never be sanatoria enough to hold them all; and it is probable that should any Hospital Association attempt to take charge of every tuberculous employee from the inception of the disease until the recovery or death of the patient that the task would overtax both the available funds and the accommodations. If, however, the examination of the chests of applicants for employment, taken with a rigid inquiry into the past history, be made most thoroughly, and no cases accepted for hospital treatment that have not been in the employ of the company at least four years, and only incipient cases be taken, it might be possible to look after those cases which promise greatest chance for recovery. By limiting the time of any one patient to three months many more patients could be accommodated than without such a time limit. To recapitulate—make the first examination most rigid, with a tuberculin test if deemed wise. This would exclude as large a percentage as possible of tuberculous individuals. By furnishing hospital accommodations only to those who have been in the employ of the company at least four years, many of those with latent tuberculosis at the time of entering the service would be excluded and the possibility of getting only those who contracted the disease while in the employ of the company would be greater. By accepting only incipient cases the Association would provide for those where the chances of recovery are great and the employee developing a cough would be stimulated to seek advice early. In this way more cases would be detected before they become far advanced, and those patients who might endanger fellow employees would be detected and given proper advice. By limiting the length of stay in an institution to three months, ample time would be given for the arrest of the majority of incipient cases and for the patients to become thoroughly educated in the methods of combating the disease. Again by accepting only incipient cases such patients would require less attention. Their quarters could be in cottages or in open air pavilions and these could be used in any climate for incipient cases.

In addition to these measures there might be a dispensary for cases not suitable or eligible for sanatorium treatment and pamphlets telling of the nature of tuberculosis, its early symptoms, the things necessary to produce a cure, the precautions to be taken to prevent its spread, could be distributed both to the sick and to the well. There might even be an Association for the Study and Prevention of Tuberculosis among Railway Employees.

All these things, however, are details that would require much time and thought to thoroughly work out. I am not a statistician, full of figures as to the percentage of deaths among employees or with estimates as to the cost of maintaining any one patient for a given length of time. I am not conversant with the amount of funds required for such work nor with the manner in which such funds can best be collected. I do not know whether this subject will be of sufficient interest to stimulate any action towards the solving of the problem presented by the tuberculous railway employee. I do know, however, that the war against tuberculosis is growing and that it is being approached and attacked from all sides. It seemed to me that the railway companies whose hospital associations are doing a work along other lines that is worthy of congratulation and of our pride are, perhaps, not taking the active part that they will later on assume. And finally I know

that as district surgeon I have seen a young man doomed to die at the age of 26 years of a preventable and curable disease because he could not receive the right treatment at the right time. It was the hope that this question might receive more consideration than it has in the past and that some means might be adopted to furnish hospital care for the incipient cases of tuberculosis among railway employees that caused me to present to you the problem of the tuberculous railway employee.

### Discussion.

Dr. Philip King Brown, San Francisco, discussing:

I wish to call attention to one statement and the significance it has in the steps taken toward solution of this problem. There are not enough sanatoria in the world to take care of the early cases of tuberculosis. Unless we can meet this problem without their having to go into a sanatoria we are not going to meet it at all. The chief value of the sanitoria is the graduating of large numbers of people instructed in the proper way of living, ready to demonstrate that knowledge in the districts from which they came and therefore making effective the work which they learned. Apart from that it is not an economic way to handle the thing unless we can put the sanatoria on a simpler basis. It costs the man too much money, putting him under expenses in most cases quite as great as he would earn and enforcing a burden which he cannot meet. As a suggestion toward the solution of this problem I will call attention to the tuberculosis class method of handling patients, a method under operation for some months in this town with a considerable degree of success. It applies to the man employed provided he can get away from his work. We have selected out of our tuberculosis clinic in the San Francisco Polyclinic, practically 100 patients in the last ten months of incipient cases and have put them into a class. I want to speak of it because if tuberculosis is extensive enough for us to consider it a weighty problem it ought to be tried in the shops and factories and a great deal could be done toward making the conditions better than they are. These cases in the class meet regularly for a comparison of results obtained during the week, they are weighed by the nurse and the temperatures are taken, the number of hours they have been able to spend out of doors and facility with which they sleep out of doors, etc. are all made a matter of daily record. It is my experience repeated many times that the best effort you can put behind a person sleeping out of doors has but little effect in comparison to five minutes talk with one tuberculosis patient who has already slept out of doors. Put them next to this patient and within a few days you will have no trouble with the case in taking to the out-of-door life. In this class we have been able to get results in getting 25 people to sleep out of doors in a way never accomplished before, we have in 4 or 5 months graduated about 4 members of a class who have gone back to hard work without having any return of their symptoms. We are trying to show that you can treat tuberculosis in a class where it is conducted successfully and unless we can take the people in this way the problem is so big that we cannot expect to cure them. I believe in the sanatorium, I believe in putting incurables into the sanatoria and I believe in giving a person who wants to learn the best possible opportunity he can get and he can get it in the sanatoria where he cannot get it anywhere else. Many a young fellow has overcome a suspicious area in the lung, certainly tuberculous because he responds to the tuberculin injections, and has been able to go on with his work without really ever feeling that he has definitely consumption, yet there is no doubt that he has it and that he has been practically cured of the trouble without being sidetracked from his work at all.

Dr. Ernest M. Keys, Alameda, discussing:

The different States of the Union and the Nation at large have spent millions of dollars every year in an effort to cure hog cholera and anthrax diseases in the animal but until you can make our legislators believe that the human being is of equal value to the hog or the cow you will never be able to wipe out tuberculosis. I think the only way to act is to go to the legislators and explain to them that the human being is of equal importance to any animal food and that if it is worth while to appropriate money to wipe out animal diseases it is worth while to appropriate money to prevent and cure diseases in the human being. There is no reason why money cannot be appropriated so that these men need not lose their lives and that is the only way to handle tuberculosis.

Dr. S. E. Pinninger, Lovelock, discussing:

It seems to me that we should act upon the suggestions presented in this paper. The subject is very important and these early cases of tuberculosis should be attended to. It is no use to read papers on this subject; we should act.

Dr. R. A. Peers, closing discussion:

I am very glad there has been some discussion stimulated and if it will only help to solve the problem a little I will feel repaid. As Dr. Brown stated it would be impossible to place all of these men in sanatoria and very frequently in the incipient cases by using this plan of which Dr. Brown has spoken which I believe originated with Pratt of Boston, a great many cases could be treated successfully and at the same time kept at their work. But if they could be taken into a pavilion it would take a large part off of the great problem. As Dr. Keys stated with regard to the money spent on protecting animals, the hog and the cow, the money spent to kill pear blight, etc., if we could only stimulate the legislators to spend more money to fight tuberculosis it would be a great help.

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## THE USE OF NITROUS OXIDE AND OXYGEN TO MAINTAIN ANESTHESIA AND POSITIVE PRESSURE FOR THORACIC SURGERY.

By STERLING BUNNELL, M. D., San Francisco.

In presenting the following, no claim is yet made for its practical value and until it has been worked out more fully it must rest merely as a suggestion.

Physiologically positive and negative pressure apparatuses are equally satisfactory for allowing respiration to continue when the chest is open, but the positive pressure apparatus has the advantage of simplicity and portability. Nitrous oxide with oxygen has some decided advantages over ether as an anesthetic for this work, and moreover eliminates the necessity of a pump.

The expansion of the nitrous oxide and oxygen as they are allowed to escape from their storage cylinders furnishes the positive pressure. The mixed gases are delivered into a mask and can escape only when they are under sufficient pressure either to pass out through a tube that projects a certain depth in water or else to force open an exit valve that is closed by a spring set at the desired pressure. In these experiments the tube in water was used, but a simpler device can be made to fasten to the mask of the Teter gas machine, so that by adjusting

its spring any desired pressure may be applied to the valve.

*Advantages.*

(1) It is not necessary to remove mask during operation.

(a) Mucus does not collect in throat.

(b) Tongue does not fall back as it does with ether.

(c) Patient rarely vomits.

(2) The only special apparatus needed is either the spring device to apply pressure to the valve in the mask or a pressure bottle and mask. No cabinet or electric, hand or water power pump is needed.

(3) Compared with ether there is little or no shock from gas, and immunity against infection is not decreased to the same extent (Crile—personal communication).

(4) No pulmonary irritation from nitrous oxide.

(5) Actual cautery may be used on ends of bronchial tubes, as $N_2O$ is not inflammable.

*Disadvantages.*

(1) Nitrous oxide and oxygen are expensive (about $6.00 an hour, or $3.00 an hour with generator in building).

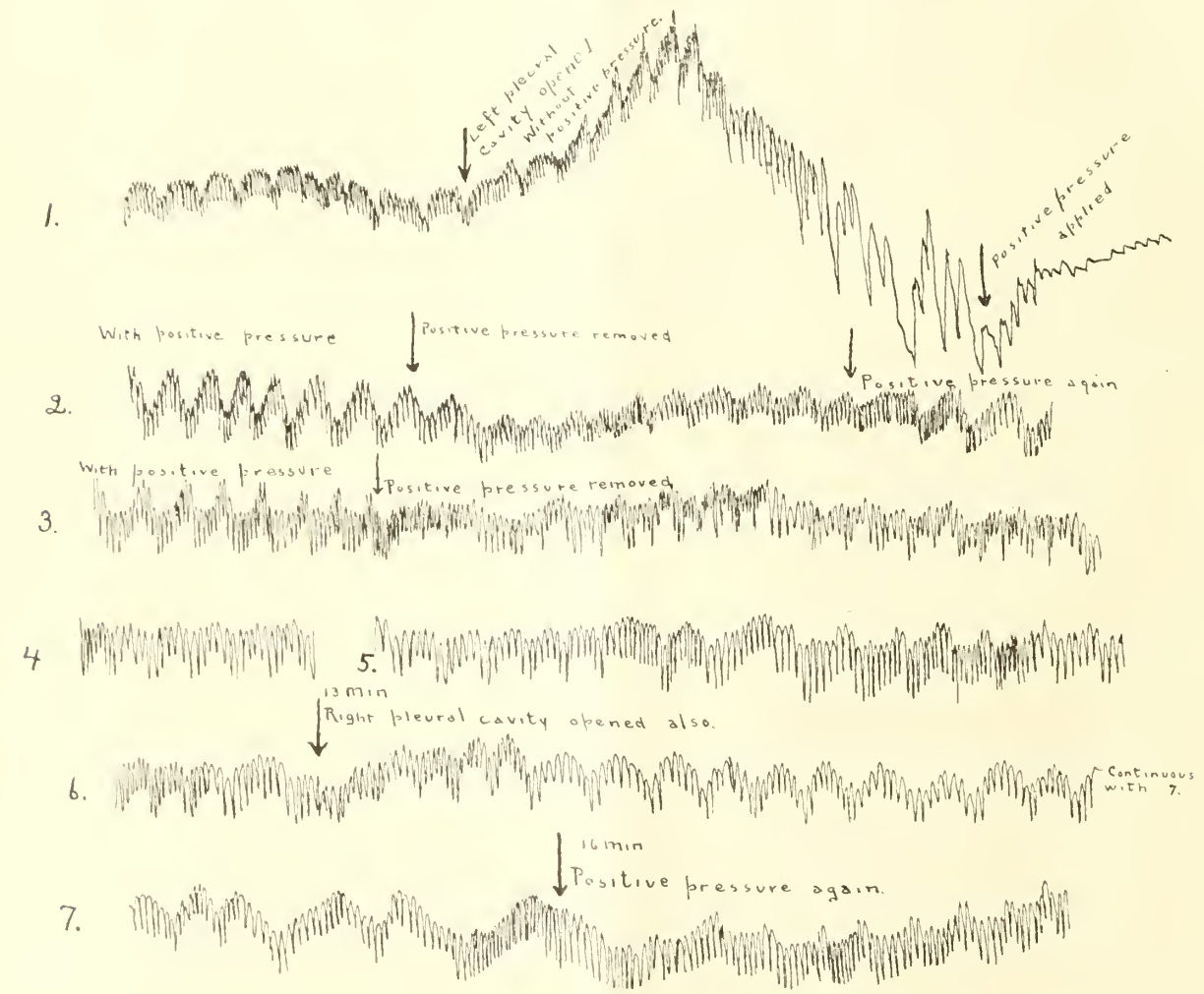
(2) There is often a faint cyanotic tinge with this anesthetic, and, as a very few patients with weak myocardium have died under nitrous oxide and oxygen anesthesia, this extra work of the heart to compensate for the cyanosis in a patient of lessened lung capacity may lead to dilatation.

(3) The flow of gas is not as constant as that of air from a rotary pump, although the pressure remains constant so long as sufficient gas is flowing.

Nitrous oxide can be made in a generator in the hospital and stored under 100 lbs. pressure. It can be piped to the operating room and by a regulator be discharged at any pressure desired and with a constant rate of flow. Such a plant is in St. Luke's Hospital, Cleveland.

Through the exceeding courtesy of Dr. Crile in allowing me to work in his laboratory and helped by suggestions from him, I was enabled to test the method in the following experiments on dogs:

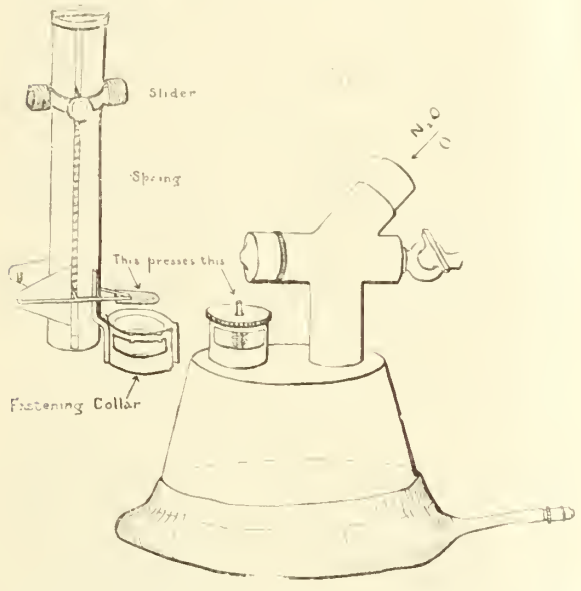
*Experiment 1.*—Condition alternated between that of cyanosis and that of lack of anesthesia, as it is difficult to keep dogs anethetized with $N_2O$. Used pressure of 9 cm. of water and lungs remained inflated sufficiently for respiration, but were not quite flush with the chest wall. The supply of oxygen gave out, so the dog died.



*Conclusion.*—Morphin gr. ¼ should be given previously in dogs to help maintain anesthesia. A longer water pressure tube should be used to compensate for leakage.

In the other experiments these two modifications were used, and there was then no difficulty to either keep the dog anesthetized or to keep the lungs sufficiently inflated.

*Experiment 2.*—Gave 6% O. Cyanosis appeared once only. Lungs kept inflated sufficiently and dog breathed naturally (except when a clamp came off the open bronchus and both lungs collapsed till the bronchus was closed). The inflation was very steady. Once, when the pressure tube kinked, the lung bulged through the incision. Opened both pleural cavities with no ill effect. Kept chest open one-half hour. Resected a lobe.




*Conclusion.*—Apparatus worked satisfactorily. Dog made a good recovery and before he was killed, which was four days after the operation, he was as lively as the well dogs.

*Autopsy.*—No infection. Pleural cavity clean. Remaining part of lung of normal appearance. Middle lobe lightly adherent to costal pleura at line of incision. Parietal pleura smoothed over so no sutures were apparent. Stump of excised lobe smooth and sealed over so that it was hardly noticeable.

*Experiment 3.* Resected a lobe of left lung. Machine worked perfectly. Lung kept steadily and sufficiently inflated in each inspiration and the degree of inflation was easily controlled. No trouble to keep dog anesthetized. Breathing was natural.

In twenty-four hours the dog was running about with the other dogs, frisky and happy.

*Conclusion.*—Apparatus worked satisfactorily. Dog was killed three days after operation.

*Autopsy.*—Incision clean and healing well. Costal pleura smoothed over. No adhesions of lungs. Two remaining lobes in good condition. Chest cavity clean. Root of excised lung sealed over smoothly.

*Experiment 4.*—A non-recovery experiment done without asepsis. Apparatus worked perfectly and was at all times under perfect control. Any desired degree of inflation could be maintained. Mediastinum was broken through with no ill effects, and the chest wall was removed from one side, entirely exposing thoracic contents. Size of lungs changed in respiration to only a small extent, but no cyanosis occurred. Pericardium was also spread open without ill effect. Stomach became inflated, but the gas could be expressed through the mouth.

*Conclusion.*—Apparatus worked satisfactorily with one side of chest wall removed and both pleural cavities and pericardial sac open.

*Experiment 5.*—Tracings were taken of the carotid pulse, using the positive nitrous oxide and oxygen apparatus. Chest cavity was kept open for one hour and fifty-seven minutes. Experiment was done without asepsis, so the dog was killed next day.

*Tracings* show the effect of opening the left pleural cavity without using positive pressure. After an initial rise in which the pulse was quickened and respiration deepened, the blood pressure dropped, pulse became slow and of great amplitude, and respirations slowed. Positive pressure was then applied with immediate improvement.

Temporarily removing positive pressure (left pleural cavity open), the movements of the chest at once became labored and of great amplitude, and lung collapsed from chest wall. Respiratory movements were but feebly transmitted to pulse tracing, and hence had little effect on return of blood to the heart from the big veins.

Removing positive pressure for a long time, the left pleural cavity being kept open for thirteen minutes without positive pressure; although the dog seemed to hold his own, the tracings show a progressive slowing of the pulse with an increase in its volume. (vagus pulse.) The chest wall made excursions of great amplitude, as the cyanotic dog tried in vain to fill his lungs. They remained almost collapsed. These excessive movements were not transmitted to the tracing, as with the chest open they could not affect the pressure of the blood in the great vessels.

After thirteen minutes the mediastinum was broken through, thus opening the right pleural cavity also. The pulse became still slower. Respirations became progressively slower and extremely labored. Dog became cyanotic and gasped his hardest for breath. In three minutes respiration almost ceased in some last spasmodic efforts, and the pulse quickened. To save the dog, positive pressure was resumed and he soon breathed naturally again.

By this time the dog's stomach was much inflated. Condition of dog at end of operation was good.

*Conclusion.*—Chest may be kept open for at least one hour and fifty-seven minutes with $N_2O$ and O with positive pressure without cardiac or respiratory embarrassment. Without positive pressure the first

opening of the chest is a shock, but dog can live at least sixteen minutes without it and with left (smaller than right) pleural cavity open, but is cyanotic, has a vagus pulse and is in such respiratory distress that he struggles strenuously for breath. With both pleural cavities open, dog was dying after three minutes, but positive pressure restored him to comfortable breathing.

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## CONSERVATIVE TREATMENT OF TUBERCULOSIS OF THE GENITO-URINARY ORGANS.

By E. G. McCONNELL, M. D., San Francisco.

The first question which presents itself is where and how does the primary infection take place? In the majority of cases, the kidney seems to be the site of infection. The bladder, epididimis and testicle becoming involved by a descending infection, or through the blood. The recent work of Rosenberg seemed to point toward the latter channel. Frankenheimer of San Francisco has demonstrated tubercle bacilli in the blood in a number of his own and my cases, but as these demonstrations have not been verified by the inoculation of pigs, I simply mention it, and trust he will be able to give us a detailed account of his work later.

You often find cases where the first manifestation seems to appear in the epididimis, another where the first symptoms are frequent and painful micturation from an ulcerated condition of the bladder, which probably results from a primary infection in the kidney. Then you have the cases of trouble in the back, hip or ankle, and later develop tuberculosis of the genito-urinary organs.

I am firmly convinced that were we able to early recognize the offending organ, that removal would be the proper procedure, but where these cases are recognized in the bladder or epididimis we can expect to accomplish but little by surgical procedures, as we are constantly threatened with reinfecting from the existing diseased kidney. Nature tries early to wall off the source of infection, and if we can assist nature's work by increasing the power of resistance by building up the general condition, then I feel we have done a great deal for our patient.

Take the cases of tubercular conditions of the epididimis: You have all watched them run an active course, and save for the nodulation, the patient has apparently recovered. I recall a case of a young man who consulted me some twelve years ago for a tubercular testicle. I explained the condition to him, the advisability of a regular life, etc. He left me, placed himself under the care of an able medical gentleman who advised castration. This was objected to by his family. A consultation of four was arranged. Two being for and two against the operation. There being such a diversity of opinion, he decided to return to me. On a regular life he gained twenty pounds; all manifestations, save a small nodule disappeared, and I had the satisfaction of treating him, some two years later, for a gonorrhoea. Within the last few months I have heard of his marriage. Our gynecologists will say, "Is there not danger of a wife becoming infected?" I believe less danger in these cases than from cases of previous gonorrhoea. If tubercular infection takes place, in my opinion it is before it is recognized, or the active symptoms have manifested themselves. After the acute inflammatory stage develops, and the nodules appear, the testicle is of about as much use and as dangerous as a celluloid one. But I believe the removal may result in the extension of the tubercular material through the vessels, to say nothing of the mental effect upon the patient.

In bladder tuberculosis, the original site of the infection is around the mouth of one or both ureters. First, as small nodules which later become confluent and form ulcers. The patient presents himself with a history of frequent and painful micturation with some hemorrhage. That following instrumentation or lavage, the distressing symptoms have been aggravated. Many advise the washing of the bladder with a solution of corrosive sublimate, 1-20,000, increasing to 1-10,000. Others, the application of nitrate of silver; others the use of a 3 per cent sulphate of thallin injection. I believe, myself, in keeping out of the bladder, if possible; giving it absolute rest; building up the patient's general condition; paying special attention to his outdoor life, etc. As a rule, pain and frequency will diminish, the patient put on flesh and enjoy fairly good health. These were the general lines pursued in the past, but I believe we are on the threshold of wonderful developments in a curative treatment of this class of cases by means of vaccines. The stock vaccines have not been followed by the brilliant results that I have hoped for. Though in some cases they have, no doubt, been of help. The homologous vaccines are the ones that I believe will give us the ideal results.

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* Read before the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

## THE NECESSITY FOR AN ACTIVE CAMPAIGN AGAINST VENEREAL DISEASES.*

By DR. FRANCES M. GREENE.

A medical society becomes in a sense the conscience of the community which it represents. As a physician is responsible for the individual under his care, so have you become responsible for the aggregate of individuals, the public, whose physical well-being you have undertaken to safeguard. Therefore, I appear before you this evening to beg that your attention be directed to the great public need for an active crusade against venereal disease.

Syphilis since its first appearance in Europe at the end of the 15th century, has always been recognized as a grave disease, and every known means for its limitation and elimination has been tried, from burning the prostitute to regulating the traffic of her body as a recognized profession.

Ethical reformers have from time to time in this country headed crusades against prostitution. They made the serious error of attacking only the manifestation of the evil, and that on its weaker side, instead of seeking and destroying the causes which create and support it as an institution.

In Pittsburg, Penn., in 1891, the citizens of that place closed the houses of prostitution, turned the inmates out upon the streets, refusing them lodging and even food. (Dyer.) The injustice and futility of such a procedure illustrates the weakness of undirected ignorant popular opinion.

In 1892, Dr. Parkhurst, a minister of the gospel, decided to reform New York. He did succeed in causing the locality set apart by common consent for prostitutes to be cleared out. (Dyer.) Again the mistaken idea of prostitution. The result was to be foretold. Instead of a restricted plague spot, New York has disseminated plague spots.

All such methods of reform fail, because,—

1. No diseased condition was ever cured by treating only the symptoms.

2. They fail to make all parties concerned in an act responsible for it.

3. No appeal was made to the fundamental laws of equity and self-preservation by which public opinion can best be influenced.

The whole question lies deeper than prostitution itself. It lies in undirected, untempered human passions. Lies in an unawakened public conscience, in artificially cultivated ignorance, in secrecy, and in the disregard of individual responsibility.

The countries of Europe, with their older civilizations, their overcrowded cities and unfavorable economic conditions for the working classes, combined with the wave of indifference and decadence so seriously affecting their more prosperous social media, first awakened to the fact that something must be done.

It was in this spirit that the First International Congress for the prevention of syphilis and venereal diseases met for the purpose of discussion and mutual help in Brussels in 1899.

To this conference were invited delegates from governments, municipalities, physicians, lawyers, and such officials whose office presupposed an interest in public hygiene.

The first paragraph of the letter addressed to the invited delegates read as follows:

"The increasing spread of syphilis and veneral diseases has become a serious danger to society. It is necessary while it is still time to take measures for the purpose, if possible, of arresting the ever-increasing invasion of this scourge. In order to combine and unify all such efforts a committee has been formed and has decided to organize an International Conference for the Prophylaxis of Syphilis and Venereal Diseases."

At this first congress two of the delegates from the United States presented papers. Dr. S. Lustgarten of New Jersey read a short paper showing the impracticability of introducing laws regulating prostitution in the United States.

Dr. Isadore Dyer of New Orleans presented an exhaustive paper representing an enormous amount of labor and demonstrating that practically nothing had been done in the United States toward the recognition of the existence of such diseases. Dr. Dyer sent a list of inquiries based upon those issued by the secretary-general of the conference, Dr. Dubois Havernith, to all cities in the United States having 20,000 or more inhabitants. Of the 184 cities replies were received from only 69, and these furnished no data regarding venereal diseases.

To quote Dr. Dyer, "all opinions formulated by the health officer, police official or city mayor, or clerk have been drawn altogether from personal conviction, or else from the merest impression."

In his conclusion he states:

"The impression that stands out most strongly is that of the general public indifference to the question of prostitution, and the fact that it is relegated in almost all cities, (one only of those heard from excepted) to the police department, and is classed with vices, crime and nuisances."

What appalling ignorance of governments is this which places entirely in the hands of the most ignorant of its officials this source of the third great plague of the modern world!

Much time was devoted in this first congress to the discussion for and against the reglementation of prostitution. This is of minor interest to us (since it is repugnant to the genius of our race) aside from the light it throws on conditions in other countries. I have since learned that the reglementation of prostitution is being agitated in San Francisco and hope the matter will come to discussion.

I shall occupy your time only by touching upon such resolutions as were unanimously passed, and which apply to universal conditions.

The first resolution, proposed by Professor Fournier, who has perhaps done more to further the study of syphilis and the movement against it than any other man, and M. Jules le Jenne, the enlightened minister of the State of Belgium.

* Read before the San Francisco County Medical Society, October 12, 1909.

*Resolved*—That the governments be called upon to use every means in their power to suppress the prostitution of minors. In view of the following statistics this is of importance to us. The legal age of consent in the United States was at that time—

In three states 10 years.
In four states 12 years.
In three states 13 years.
In twenty states 14 years.
In three states 15 years.
In twelve states 16 years.
In one state 17 years.

In California it was then fourteen years, since raised to sixteen.

A group of well-known men, among them Fournier, Parlov, Jonathan Hutchinson, Lesser Neisser, and others whose experience has found a striking lack of preparation in the medical profession, were sponsors for the next resolution.

*Resolved*—That governments be urgently recommended to secure a more complete education in these subjects to their medical students, by making courses with specialists and examinations by specialists obligatory.

The enormous importance added by Noeggerath to gonorrhea, making it responsible for from 60 to 80 per cent of pelvic diseases in women, Fournier's authority for the relation of Parasyphilitic diseases to Syphilis causing extension of treatment to four or five years, the possibility of an heredity to the second generation, have raised the question of venereal diseases to one of the first importance in the study of medicine.

Burleareaux insists that young physicians should be sent into practice so thoroughly cognizant of the importance of venereal diseases that no matter what they may be called upon to treat, the possibility of a specific origin should always present itself to them.

Further resolutions of interest to us because they show that the needs of the movement can only be met by combined action, are:

No. VII, proposed by Professor Lassar, Berlin: Governments are urged to draw attention of the youth to the dangers of prostitution and the sinister results of venereal diseases.

No. VIII favors a uniform manner of compiling statistics in all countries.

It remained for the second International Congress, held in Brussels in 1902, to finally be unanimously convinced that the most important and efficacious means of combating the diffusion of venereal diseases consists in a widespread popularization of knowledge relative to the dangers connected with the maladies.

Above all should the masculine youth be taught that not only are chastity and continence not injurious, but that these virtues are most important and desirable from the medical standpoint. (Neisser.)

The conference also recommended that the problem of rational and progressive education in the matter of sex from a hygienic and moral point of view be submitted to the teachers and educators of all classes.

These resolutions, unanimously arrived at after great difference of opinion, lively debate, and mature deliberation of world-renowned specialists in medicine, assisted by distinguished men in other important positions of public trust, served as inspirations for the national societies formed in every country in Europe, and for the first efforts in this work, in the United States.

The work of the societies in Europe has assumed an importance that has forced the approbation, and in most countries, the co-operation of the government.

I regret that we have not time to follow in its developments the pioneer work in the opening of a new era in public health. The first move in this country was made by Dr. Prince Morrow, whose able paper before the New York County Medical Society inspired it to the appointment of the Committee of Seven to study measures for the prophylaxis of venereal diseases, and in 1905 to unanimously endorse a plea for the organization of a society for this purpose.

The first American Society of Sanitary and Moral Prophylaxis was organized in 1905 under the able leadership of Dr. Prince Morrow, in New York. It began with 20, and now numbers 400 members.

In 1906 the Pennsylvania Society for the Prevention of Social Disease was founded. It has a membership of 800. A very significant fact is that two Philadelphia daily papers report the meetings of the society.

The Chicago society, organized in 1906, numbers 250 active members. Similar societies exist in Baltimore, Detroit, Milwaukee, Indianapolis and Jacksonville. In San Jose, under the auspices of the California Public Health Association, was founded in April, 1909, the California State Association for the Study and Prevention of Syphilis and Gonorrhea.

We are very far from these centers of active work. Our population is composed for a large part of a foreign element and their descendants still close to traditions of the home countries. The "Spirit of '49" is the common expression which designates that recklessness of consequences so characteristic of the native.

We possess as yet no statistics, but no physician who has practiced medicine in San Francisco will doubt the necessity for active interference.

The International and National Congresses have been a great benefit in bringing to light the conditions leading to and surrounding venereal infection, both through sexual and non-sexual channels. They are the prototypes of a society of which there is great need here. No evil can be combated if we do not simply, openly, and in all honesty discuss it. Darkness, mystery and disguise are the best media for the cultivation of moral as well as physical bacteria. We all know what has been done for tuberculosis and alcoholism. This third great scourge can only be controlled if we can drag it from the secrecy in which both the medical profession and the laymen have so long persisted in keeping it, and open it to the healthy action of perfect understanding and public discussion of ways and means.

Another result of scientific statistical investigation and open discussion is one which if properly used is likely to prove an important factor in changing the attitude of the general public toward these diseases. I refer to the large percentage of innocents who contract venereal diseases. Fournier gives the percentage in his private practice of wives who contract syphilis innocently from their husbands as 20; Morrow, in dispensary practice, as 70; in more civilized countries 10 to 20 per cent is contracted accidentally; in Russia, accidental-non-sexual, as high as 70 per cent; in pelvic diseases of women 40 to 80 per cent. Add to this that the average age at which young men acquire venereal diseases is, according to Fournier, from the 19th to 23rd year. (In this country where the youth have more freedom, we may set the age as younger by several years.) From a really moral standpoint, these victims of temptation too strong for their years, unprepared and ignorant of the dangers awaiting them, are as innocent as those whose infection was accidental. With the assistance of such statistics and a logical, just and humanitarian conviction that these diseases are not shame diseases, since most of the sufferers are the victims of ignorance, false education and false social conditions, we can safely approach the public of both sexes.

I believe with Professor du Claux, the successor to Pasteur, who says that a fight against venereal disease will only be possible when we can arrive at the point of view that the sufferers are not guilty but unfortunate.

I quote Professor Finger of Vienna: "Society should be taught that instead of being ashamed of and not fearing these diseases, they ought not to be ashamed of, but fear them."

The responsibility in these matters is becoming too heavy for the enlightened physician. Considering the widespread consequences of venereal disease professional secrecy, to the honorable physician, is often being strained to a point where it is impossible for him to decide upon the lines of a tradition inapplicable to present conditions.

The growth of such movements as Christian Science and the Emmanuel Movement is a symptom of a growing distrust of our profession.

If we wish to preserve the honor of the medical profession intact we cannot afford to be silent. We can ill afford to take no cognizance of scientific and sociological development. We must not allow the laymen to think that we are guarding as a secret and using for the purpose of commercial gain, the knowledge of diseases which are so widespread in their consequences, so difficult of cure, and of which the prophylaxis is of so great an importance.

As long as physicians still treat gonorrhea with cynical humor; as long as they send fifteen-year-old boys to prostitutes because they have had a few emissions; when, in spite of the consensus of scientific opinion to the contrary, they still continue to believe that almost with the first night emissions a lad is sufficiently developed for sexual intercourse, we shall deserve the hard things that are said about us.

Our educators are alive to the gravity of the situation and look to us, as possessors of the knowledge, to make the first move. It is natural that the first impetus should come from the medical profession. Nothing effective was done in the movement against alcohol until all sentimentality was dropped and the subject was treated scientifically. The morality of a movement whose object it is to protect the individual, the family, the nation and the race, speaks for itself.

The first steps toward the solution of the problem have already been suggested to us, viz:

1. The dissipation of public ignorance on the subject.
2. The proper sex education for the young of both sexes.
3. The stimulation of physicians to a deeper study of the subject.
4. The destruction of the antiquated opinion that chastity in young men is injurious.
5. The co-operation of educators and legislators in this common cause.

I cannot more fittingly close this appeal that all earnest men and women help in the first active steps in this direction, than by quoting from Thomas Huxley, who sacrificed his own scientific ambition in order to popularize science and to develop and organize scientific education: "To promote the increase of natural knowledge and to forward the application of scientific methods of investigation to all the problems of life to the best of my ability, in the conviction which has grown with my growth and strengthened with my strength, that there is no alleviation for the sufferings of mankind except through veracity of thought and action, and resolute facing of the world as it is."

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## DR. H. H. RUSBY ON IMPURE DRUGS. AN ADDRESS BEFORE THE PHYSICIANS OF REDLANDS, CALIFORNIA.

An interesting little gathering of physicians and pharmacists occurred on Tuesday evening, August 24th, at the office of Dr. Hoell Tyler, at Redlands, this state, when an address was made by Dr. Henry H. Rusby, Dean of the College of Pharmacy of Columbia University, in the City of New York, and president of the American Pharmaceutical Association. The occasion was that of a visit by Dr. Rusby to his old friend, Dr. Tyler, they having been associates on the medical staff of the New York City Lunatic Asylum in 1883-1884. Dr. Tyler celebrated the occasion by asking his numerous medical and pharmaceutical friends in Redlands and surrounding towns to join in welcoming his guest.

Dr. Rusby took for his subject the existing defects in the quality of medicaments, which have recently attracted such great attention, and the best means for their removal, and spoke as follows:

I have just concluded a tour of inspection of

the principal cities of the Pacific Coast, having collected a large number of samples of drugs which are to be critically examined upon my return. Enough has been seen upon this tour to convince me that a great deal of serious imperfection exists in the drug supplies on which the physicians of this coast are dependent. It is hardly worth while to venture an opinion as to the extent of this imperfection, but it appears to be greater than in the East, where we have usually found about 20% of the articles examined to be seriously defective, it being understood that we examine chiefly those articles which we consider likely to be defective. Neither is it worth while, for my present purpose, to discuss the causes, accidental or intentional, farther than to say that there exists considerable deliberate and carefully studied adulteration and substitution. My only purpose is to call your attention to the urgent need of improvement and to suggest ways in which it may be secured.

Let us take as an illustration the town of Redlands. I have done no inspecting or collecting of samples here, and it is only through comparison that I assume somewhere in the neighborhood of 35% of such defects as I have referred to. I would include in the list of drugs thus defective such things as Colocynth, Aconite, Conium, Henbane, Belladonna, Stramonium, Digitalis, Balsam Peru, Balsam Copaiba, Scammony, Jalap, Coto, etc. Although my assumption may be entirely out of place, and Redland's Pharmacy may be exceptionally perfect, let us discuss the case as I have supposed it to exist. Certainly the physicians present will agree that its continuance should not be tolerated and that they, as the class chiefly interested, should procure a change. What is the proper course to pursue in such a case? The law has fixed upon the pharmacist who fills a prescription or makes a sale as the party who is responsible for any defect in the article so dispensed or sold, unless it represents an unbroken original package, in which case the responsibility reverts to the source of that package. In other words, it is the legal and professional duty of the pharmacist to satisfy himself of the identity, purity and good quality of everything that he dispenses or sells. At first glance, the physician may think that this reduces the question to perfect simplicity, but such is far from being the case. It is a practical impossibility for the pharmacist to examine and test every article that he keeps in stock. For a pharmacist with an average business to do so would require the employment of at least one professional analyst, and the price of prescriptions would be doubled or trebled. So far then, it looks as though the law prescribes a punishment for the pharmacist unless he performs the impossible. There is a way, however, by which the pharmacist can control, with reasonable perfection, the quality of his goods, without recourse to this wholesale system of testing. The U. S. Department of Agriculture maintains a system of inspection of interstate commerce in drugs, and is prepared and glad at all times to examine suspected products having this relation. The pharmacist then is in a position to send to the Department for examination any suspected sample representing interstate commerce. As a matter of fact, the obtaining of such samples constitutes the most difficult part of that Department's work, and the assistance of pharmacists in obtaining such samples would be most welcome. In case of intra-state commerce, most of the states now have commissions or boards which are required to perform such work. Until recently, California had no such provisions and was a recognized dumping ground for the pharmaceutical refuse of the East, but this defect is now remedied, and any pharmacist in this state can, by taking the proper course, obtain state assistance in unearthing the misbranding or adulteration of medicinal products.

The proper course for every pharmacist to pursue is to notify his supply house that he intends having its products rigidly tested, and to hold them responsible for the results, and that if such products are found to be defective, he will cease trading with them. The mere establishment of such an understanding will in nearly all cases accomplish the desired result. When it does not, the carrying out of its provisions certainly will. It is a common thing for the supply houses to declare that they desire nothing so much as to furnish the very best grade of goods, but that the pharmacist insists so strongly upon having inferior or defective ones that they are unable to resist his demands. The inauguration of such a movement as that here suggested would certainly result in the settling of this controversy.

With this view of the situation, the course of the physician becomes clear. If it is within the power of the pharmacist to perfect his stock, it becomes the duty of the physician to require him to do so. Were I a practising physician in a town where there was but one pharmacist, I would serve formal notice upon him that I intended to secure the testing of his drugs, just as I have stated that the pharmacist should notify his supply house to a similar effect. I would satisfy him fully that he would supply defective products only at a great risk to himself and I would then carry out the plan thus announced. There would, of course, be some trouble and expense involved. Where a local medical society exists, as in this neighborhood, such trouble and expense could be shared by the appointment of a committee. This committee could itself perform preliminary tests, and then call upon the state or national boards, after it had established a probability of cause for action. This would promote the study of official tests and standards by the medical men, one of the greatest needs of our physicians, and it would introduce a new and exceedingly interesting class of topics for discussion at the meeting. Best of all, it would bring about a complete remedy of the evil herein considered.

The pharmacist, on his part, is sadly neglectful of his professional duty of organizing for united pharmaceutical work, as physicians do through their local societies. There is a great national organiza-

tion, the American Pharmaceutical Association, and most of the states have pharmaceutical associations which meet in annual convention. But the amount of detail work that can be performed at these meetings is limited, and this should be done by small local bodies. Recognizing this, the A. Ph. A. has begun the formation of local branches, and excellent work has been done by them within the past year or two. One is just now being formed upon the Pacific Coast, and the number to be eventually formed here will be limited only by the general extent among pharmacists of a desire to participate. In the same way, county branches of the state societies could be organized, as is done by medical men. When we think of the great number of small local medical societies and of the great amount of hard and useful work that they perform, it seems both pitiful and shameful that no such movement is to be seen among pharmacists. Nothing could do more to advance the reputation of our profession among the better class of physicians than such an evidence that the professional side of our calling was receiving due consideration, at least insofar as relates to our most important duties to physician and patient.

The one fundamental fact with which I am here dealing is that the enactment and support of good laws depend finally upon public interest and co-operation. Congress and the legislatures have done their best in legislation, and the administrative officers are working with more or less energy and faithfulness, but their opportunities and capacities are so limited that success absolutely requires the co-operation of the medical and pharmaceutical professions. Furthermore, the laws are all seriously defective, yet the legislative bodies who framed them are not likely to remodel or amend them until the defects have been demonstrated by those concerned, and then brought to their attention. The best way of accomplishing this result I have herein tried to indicate.

Having thus pointed out the failure of pharmacists to do what is easily in their power to remedy this condition, I will indicate a way in which many physicians are contributing to its maintenance, namely, in the dispensing of their own medicines. It is only vanity that can suggest to the average physician that he is anywhere near as competent to dispense as is the average pharmacist. His training does not and cannot so fit him, and if it is true that a dishonest supply house hopes at times to take advantage of the ignorance or carelessness of the pharmacist, it is also true that it looks upon the body of dispensing physicians as a mine of ignorance and incapacity that can be worked to its pecuniary advantage, using the key of flattery to unlock the door of his vanity. As a rule, the materia medica trash is disposed of among them, and the only place where worse stuff is distributed is to the hospital boards; for it is well known in inside circles that it is very common for such boards, especially when their lay members are influential, to demand of manufacturers the supply of medicaments at prices below specified figures, and without regard to their quality, or even their identity.

Unless physicians see and act upon this important fact, the time is surely coming when their patients will do so, and will discriminate accordingly among their medical advisers. If the pharmacist will but do his part in convincing the physician of his fitness, and will free himself from his own derelictions in the matter of counter prescribing, there is no good reason why each profession could not come into its own, to the great advantage of the patient, who stands between and suffers from the waywardness of both.

Dr. Rusby was asked by a physician present what he had to say about the nostrum evil, and quickly replied that its existence and growth were the direct result of the acts of physicians. He said that he knew of no important nostrum that had not gained its introduction through its use and recommendation by physicians; that physicians are too credulous of the promises of the nostrum proprietor. These proprietors promise to maintain the use of the nostrum in prescription work only, but totally ignore this promise as soon as the physician has assisted them to introduce the article. To this rule he knew of no exceptions, nor did he consider one possible under existing commercial conditions. If any man has the power, through proprietary rights, to betray the physician, he will surely either do so himself, or sell out at a good figure to a successor who will do so. The only course for the physician to pursue is to inquire as to the existence of such rights in an article, and if they exist, to have nothing whatever to do with it. To the limited proprietorship of a patent, for a brief term of years, in a genuine discovery, some consideration might be granted, but most nostrums hold the perpetual monopoly of a copyright. It is out of order for the physician to charge to the pharmacist the responsibility of preventing or discouraging the use of medicaments. For this demand the physician should be wholly responsible, and he should create, regulate or destroy it, as the case may require. The pharmacist is to supply the demand thus created, or allowed to develop, and to be responsible for its quality. If it is true that many pharmacists promote the demand for nostrums, for financial reasons, it is also true that a host of them sacrifice much business in refusing to do so, and exercise an advisory influence against their use which might well be imitated by a majority, perhaps, of practising physicians.

Asked what he thought of the value of active constituents, and of their availability by the physician for dispensing purposes, he replied that it was an error to regard such agents as forming a single class and thus to decide such a question. They fall into many classes. Only a small minority of important drugs can be used in the form of their extracted constituents. Of these, some were more prone to variation in strength than the galenical preparation of their drugs. Others were very prone to impurity, and the cost of perfectly purifying them was so great as to lead to neglect of such treatment. Others are apt to deteriorate, especially in tablet form. Some are usually pure, uniform, stable and convenient, and are for general use the

best preparations of their drugs. However, it might be said with the utmost assurance that every danger of defective tablets and active constituents was exaggerated when the articles were supplied to the physician, and this was specially true of shortage in the supposed amount present. The pharmacist is far more able and likely to protect himself against an imperfection than the physician, as most physicians would doubtless admit when they reflected upon their inability to make qualitative and quantitative examinations. The small profit that the pharmacist would charge in supplying his physician would yield full returns to the latter in increasing his protection, and in enabling him to place upon the pharmacist the responsibility of guaranteeing the quality of the goods.

Many other pertinent questions were put and answered and the discussion was continued until a late hour.

## ENUCLEATION OF THE TONSIL IN ITS BEARING ON GENERAL INFECTIONS.*

By REDMOND PAYNE, M. D., San Francisco.

I am writing this brief paper upon the subject of general infection through the tonsil and the necessity for the radical tonsil operation, because we must hear it repeated to us and impressed upon us many times before its importance is brought home to us—also because in many of our large cities today, it is still an exception to find an operator who is doing the complete radical enucleation.

There is no more reason for doing an incomplete tonsil operation than imperfectly performing any surgical operation.

Many operators are careful to remove all diseased mastoid cells, but will partially remove diseased tonsil tissue. In the light of the general infections resulting from it, the complete obliteration of the one is as important as that of the other.

The excellent work of Goodale, Wright, Ballenger, and others, has given the proper status to the diseased tonsil. There is no longer any doubt that many infections and toxemias gain entrance through the tonsil. While the mucous membrane of other parts of the throat may withstand invasion, that in the lacunae of the diseased tonsil, the epithelium is constantly exfoliated, offering direct entrance into both the lymph and blood streams.

In childhood, the cervical adenitis so frequently seen, is usually tubercular and though Goodale of Boston often failed to demonstrate tubercles or the bacillus in the tonsil tissue, yet when the tonsil material was injected into guinea pigs, tuberculosis was produced in a large percentage of cases. One should bear this in mind and enucleate this "tonsil gland" as well as the diseased cervical glands.

In children predisposed to tuberculosis the diseased tonsil favors the infection by harboring the infecting agent. The same seems true of rheumatism. In those predisposed to that disease, the diseased tonsil favors the infection whether it is due to a specific organism or a mixed infection.

There are long lists of observers, who find the diseased tonsil, the cause of a variety of general infections.

*Rheumatism*: Ingals, after a careful study of 100 of his own cases of tonsillitis, reverses his former view and now believes tonsillitis plays a very important part in the etiology of rheumatism.

Phillips, in 210 cases of acute articular rheumatism, found that tonsillitis developed in 187, during or before illness.

Brown describes a regular epidemic of tonsillitis in school children with rheumatic complications. Many cases are reported where extirpation of diseased tonsils has cured recurrent attacks of rheumatism.

*General Infections*: Otten, Woodcock, Stengel and others report cases of general staphylococcic infection, pyemia phlebitis, fatal septicemia, originating from the tonsils.

*Nephritis*: Morse, Hammerschmidt and Adler report 85 cases of nephritis following tonsillitis—usually a mild type.

*Endocarditis*: Ross reports streptococcic endocarditis following tonsillitis; Charrin a fatal case, caused in the same way. Packard reports six cases.

*Pneumonia*: Hammerschmidt, Adler and Wallace report six cases of pneumonia following tonsillitis.

*Pleurisy*: Several cases are reported following tonsillitis.

*Phlebitis*: Among other cases reported, Wagner reports two cases from which an apparently slight angina produced a suppurative thrombosis of the jugular vein and pyemia-streptococci, found in both vein and tonsil.

Many cases of meningitis, parotitis, skin erythema, etc., are reported as following tonsillitis and having direct relation to it.

Many other infections are reported by reliable observers, which we have not the time to go into now, but these serve to point the way—and I wish to point out particularly that the general infection can take place through the tonsil without local inflammation in the tonsil itself having been produced.

These diseased cryptic tonsils need not be hypertrophied—on the contrary they are very frequently imbedded between the pillars of the fauces and require pulling the anterior pillar forward in order to expose it. This small tonsil is full of crypts and diseased and is quite as often the harbor of infections as the hypertrophied tonsil.

Any general inspection of the throat gives no reliable information as to the part it is playing in given general infections;—it is the tonsil and the tonsil only that must be thoroughly explored.

In view of the above facts, it will be seen that the simple hypertrophied tonsil for which tonsillotomy was done, is the least important one requiring surgical management and that a diseased tonsil should be completely removed, no part of the lymphoid tissue being left behind.

Bearing this in mind, that the tonsil is an encap-

* Read before the Pacific Association of Railway Surgeons, August, 1909.

sulated mass of lymphoid tissue resting in the sinus tonsillaris between the pillars of the fauces upon the fibrous bed of the superior constrictor muscle, the tonsil is readily shelled out of its bed with its capsule intact as one can shell out the superficial glands of the neck.

*The Operation*: The tonsil is seized with a small tenaculum pulled inward to expose the marginal attachments of the pillars to the tonsil—with a small, straight blade, cut through the mucous membrane and attachment all around the face of the tonsil, dissecting back a short distance, keeping close to the tonsil capsule in the dissection—as in shelling out a lymph gland—with a long-handled, blunt dissector. Begin to free the tonsil and it will soon pop out of its bed when it can be readily freed from above downward; when the upper 2-3 or 3-4 is free, the Peters snare with No. 7 piano wire is slipped over it and the loop passed behind the tonsil and dissection completed by the snare.

If one is careful to avoid puncturing mucous folds of the pillars and buttonholing the fibrous bed, there will be no bleeding to disturb one greatly. If either accident occurs, it can be controlled by hemostats—if not then the pillars can be sutured together, which always controls.

The operation is best done under general anesthesia, though in some adults 2% cocain and adrenalin equal parts, injected deeply around the tonsil is satisfactory.

The point of practical importance in regard to blood supply and control of bleeding is that the arteries pass external to the superior constrictor muscle, viz: the bed upon which the tonsil rests; after passing through the muscle, they divide into smaller vessels which enter the tonsil through its capsule. So if one hugs the capsule in the dissection, the vessel trunks are not severed and no troublesome bleeding occurs—the external carotid artery is nearly an inch distant.

Dr. Charles H. Miller (San Leandro): We very frequently see these cases in the acute stage for the first time, and I do not think that during that stage we are at all warranted in going ahead with the enucleation. I have found that during the acute stage very much can be done in the way of relieving the angina and, I think, in preventing complications, by the liberal use of asperin dusted on with a good powder blower. I have become quite a crank in the use of that drug and have gotten great benefits from its use in that way.

Dr. George H. Powers (San Francisco): I have no doubt but that I agree with what Dr. Payne has said in his paper, although I did not hear it. There is no doubt that the tonsils when in a diseased condition are susceptible to all sorts of infections, more so than perhaps any other structure of the body, and we very often hear from parents and friends of patients that if the tonsils were not intended to be there they would not be there in the beginning. I do not remove normal tonsils, only the diseased tonsils, just as a dentist removes the teeth which are positively doing harm. In that sense the removal is not subject to objection. We often hear that the removal of tonsils will injure the voice; the diseased tonsil is a menace in the way of vocal sound and much better out than in. The diseased tonsil when removed certainly leads to the improvement of the body in more directions than one would suppose possible until he has seen it done. The removal of the entire tonsil has a great advantage over a removal of a part of it. The only objection to the entire removal has been in cases where the patient has been unable to stand a long continued anesthetic or as it sometimes happens, that the dissection requires a good deal of time, but these cases usually do not need a great deal of time and it is much better to perform a complete operation. As to leaving a part of the tonsil, I cannot see any good reason for it, because in the first place, where the tonsil is affected, usually we find on removal that the entire tonsil was affected, and if you leave a part of it you leave a portion of diseased tonsil behind.

Dr. Robert W. Miller (Los Angeles): I have been very much pleased with this paper and in the main I heartily concur in the view taken by the writer that, although throughout the country attention has been called to these matters, it is true that many general practitioners and men doing general surgery and even many throat specialists are still inclined to temporize with these cases and do a tonsillotomy instead of a tonsillectomy. I am not altogether sure that in certain cases that practice is not correct. I think that we should carefully examine the tonsils, as suggested by the writer, for many of them are small and look very innocent indeed, and yet the patient has these important symptoms, viz., a recurring arthritis or a low grade chronic sepsis. I have operated upon a number of cases in which the patient had symptoms of rheumatic arthritis and some of them had suffered from a number of attacks, yet after the removal of the tonsils there were no further attacks. At the same time I think all doctors will do well to keep as close as possible to nature, study her methods of combating disease, to recognize physiological processes as far as possible in doing their work. The mass of lymphoid tissue must have been put there for some purpose. I think a tonsil that functionates will be a place for the final destruction of many pathogenic germs. The lymphoid tissue all around it in the pharynx is there for that purpose. If we have had a bad tonsillar infection, then it becomes a question in certain cases whether it is better to enucleate the entire gland or leave a portion, but in any case of doubt, I think it well to do a complete or so-called radical operation.

I believe that if the infection of the cervical glands is not particularly virulent or extensive and the general condition of the patient is good and he can be properly cared for and fed, that it is well, in many cases, not to remove the infected glands.

Suppose we have two or three infected glands in the neck and we may have others infected just as badly below the clavicle, a location practically prohibiting surgical procedure, we trust to nature somewhat anyway. In a general way I think the views advocated in this paper are correct, and I am sure that the importance of these cases is not as generally recognized as it ought to be.

Dr. Payne has stated that where there is a cervical adenitis, he not only enucleates the tonsils which are the source of infection but also removes the infected glands in the neck. The lymphatic system consists of lymphatic vessels and lymphatic glands.

The vessels convey the infectious micro-organisms to the glands, where they are assisted by nature's process. Here we find the foci of infection, and here the struggle for supremacy takes place. Here the invading micro-organisms are to be promptly destroyed, or in case of failure in this process, to be retained in situ by incapsulation and finally starved to death, thus preventing their multiplication or extension to other parts.

Dr. Redmond Payne (San Francisco), closing discussion: With reference to the removal of any part of the hypertrophied tissue of which the adenoid tissue is a part, I will say that there never has been anything but benefit come from the removal of any part of that ring. The removal of the adenoids has only done good, the removal of the tonsils has only

done good, and especially where the removed tissue is diseased. With reference to the tonsils being removed, I have dealt solely with the cryptic diseased tonsil, leaving the normal tonsil out of consideration. As to any other method than the complete enucleation, I will divide the tonsil into three parts, the head, the body and the tail. The head is well up in the supratonsillar fossa, which constitutes at least one-third. The body is between the pillars and the tail is down near the base of the tongue. Now the part which harbors the infection is that part in the supratonsillar fossa, and when it becomes at all closed by adhesions or otherwise, we have the peritonsillar abscess and local manifestations, and whenever even partially closed, we have the retention of the deposits in the crypts and general absorption and infections resulting. So I can conceive of no method of relieving the patient completely without wholly removing the tonsil within its capsule. I have only spoken here of the chronic, cryptic diseased tonsil and its bearing on the general and local infections; the management of acute tonsilitis in general is not considered—the enucleation of the tonsil should certainly not be done in an acute attack.

**Discussion.**

Dr. T. C. McCleave, Berkeley: I was struck with the remark that even in the centers of large population we find so few who do this operation properly. I think we should always find out what the specialist is going to do for our cases, and what kind of an operation, because the final result always comes back to us. I have been a crank for some years on this matter. I used to refer my patients to specialists, and I found afterwards that the children of ten continued to have trouble and that the responsibility and blame came back on me. I also found that few men at that time would do the radical operation, and so I have for some years been doing this operation myself. I think if you are going to refer your patients to the specialists, you should refer them to the man who will do the radical operation, because while the tonsil probably has some function in destroying pathogenic organisms, I hold that once the tonsil becomes diseased it never again becomes a normal organ. However much of the projecting tissue you may cut off you are bound to leave behind a piece of the tonsil in which are the extremities of the follicles which can never be cleaned out. These patients are subject to heart affections and rheumatic affections and various other conditions following tonsillar trouble. There is no more important topic in medicine than this one of tonsillar infection, and I could cite case after case in which I have seen infection of other organs traced back to previous tonsillar infections. The one point of importance that I insist upon is that if we are going to have patients operated upon by the specialists or surgeons, we should not let them do the incomplete operation of merely snipping off a piece of the tonsil, and then leaving you and the parents with the false sense of security that comes with that.

## REPORT AND PRESENTATION OF SPECIMENS OF A CASE OF CENTRAL CAVITY FORMATION IN THE SPINAL CORD DUE TO TRAUMA WITHOUT FRACTURE OR DISLOCATION OF THE VERTEBRAL COLUMN.*

By EDWARD T. DILLON, M. D., Los Angeles.

Shimata, Japanese, 32 years of age, entered Sisters' Hospital February 1, 1908. The account of the injury, and the condition of the patient prior to his reception at the hospital, as received from a Japanese who accompanied him were as follows: On January 19, 1908, patient had fallen from a car, had been paralyzed and had received medical attention. Further particulars and the name of the medical attendant could not be obtained.

Examination at the hospital showed the bladder distended and a false passage in the urethra from a previous attempt at catheterization. A catheter being introduced, the urine withdrawn was found to contain blood and pus.

The patient lies helpless, without the use of either arms or legs. The arms are flexed across the chest and upon extension when released, return to the position of flexion. Bed sores are beginning on the left heel and on several other areas of the legs and back.

Reflexes: Knee jerk absent on right side, present but small upon the left. A slight Babinski reflex is obtained on the left side. The cremesteric reflex is present on both sides.

Sensation testing is difficult and the results uncertain on account of the patient's dull mental condition and his inability to speak English. Attempts to converse with him through an interpreter are unsatisfactory. Patient seems not to feel a pin prick below the knees, but to have more or less sensation above. Endeavors to ascertain his ability to distinguish one form of sensation from another are quite unsatisfactory.

In the arm reflexes are present in the flexors but not in the extensors. Breathing is purely abdominal. Patient can shrug his shoulders slightly.

Upon palpation along the vertebral column there is some tenderness from the first to the third thoracic vertebrae, but no deformity can be made out.

Patient died February 2, 1908. The spinal cord was removed by Dr. C. L. Allen. An old extravasation of blood was found around the muscles of the back in the region of the seventh cervical spine. No displacement or fracture of the vertebral column could be made out. Upon removing the laminae, a slight depression on the posterior surface of the cord at about the fifth and sixth cervical segments was noted. The cord upon section at this level showed a cavity in the central gray matter about the size of a small bean, irregular in outline, extending more toward the right than toward the left, and occupying vertically a little more than one segment. Permission to examine the brain was refused.

### *A Brief Resume of the Pathology of Central Cavity Formation in the Spinal Cord.*

While severe injuries to the vertebral column may take place without injury to the spinal cord, on the other hand serious lesions of the cord may be found without discoverable fracture or dislocation of the bones.

Experiments of Schmaus have thrown some light upon the different lesions which may be produced in the spinal cord following trauma, without fracture or dislocation of the bones. This experimenter suspending rabbits pounded them over the spine at intervals of several days. The autopsies made later showed that even in the absence of any fracture or dislocation of the bones, areas of softening and destruction of the cord occurred.

Traumatic affections of the spinal cord have been divided by Minor as follows: Those due directly to local injury as crushing, tearing or pulpifying. Localized lesions, as central hematomyelia, insular necrosis, changes in the central canal, or a combination of all three of these.

There may also be found various deformities, as rupture of the commissure and separation of the cord into two portions. Doubling of the horns and dislocation of the white matter, so that a picture simulating the decussation of the pyramids is presented.

* Read before the Pacific Association of Railway Surgeons, August, 1909.

Van Giesen (Artifacts of the C. N. S.) has shown that in making autopsies upon such cases extreme caution must be exercised, otherwise injuries inflicted in removing the spinal cord may produce the picture of any of the deformities mentioned.

Hematomyelia or localized softening occurs more frequently in the central regions of the spinal cord, the gray matter being commonly the seat of the hemorrhage, since it is more highly vascularized and less supported by connective tissue than is the white. The escaped blood may easily work its way up and down in the gray matter, as the resistance presented is small.

Hemorrhage primarily in the gray matter may become so extensive that it mechanically forces its way into the white matter. The absorption of the clot and the consequent degeneration results in the formation of a cavity. The character and extent of the destruction of the cord depends naturally upon the severity of the hemorrhage. In some cases of hematomyelia the bleeding may be disseminated. The small hemorrhage may be absorbed before great mischief has occurred, and the symptoms of localized pressure may disappear in time with recovery of the patient.

Hematomyelia followed by cavity formation in the cord without fracture or dislocation of the vertebral column, occurs more frequently in the cervical region. As the spinal column is more flexible in this region, due to the spinous processes of the vertebrae not over-lapping, this portion of the cord is more liable to stretching, which is commonly supposed to produce a rupture of the blood vessels.

It is difficult to understand how the blood vessels, rather than the more delicate nerve fibres, are first affected by the stretching of the cord, yet hemorrhage is generally considered to be the essential pathological condition.

The condition of hematomyelia has been reported as developing in the cervical region following a complete severing of the cord by fracture of the vertebrae in the lumbar rgion, although no fracture was present in the cervical region. This is accounted for by the fact that the cord must have been stretched in the cervical region and hemorrhage occurred.

In some cases the injury to the cord may be caused by a displacement of the vertebrae, which immediately springs back into position after the mischief has been done, leaving no evidence later of such a condition.

Cavity formation may be due either to hemorrhage which is later absorbed or to a localized necrosis. A combination of these conditions existed in the case reported.

If the patient survives long enough a secondary myelitis may develop. The systemic columnar degenerations have also been attributed to trauma, as has syringomyelia.

Such cases as the one reported emphasize the fact that serious injury or destruction of the spinal cord may occur following trauma to the vertebral column, even in the absence of fracture or dislocation of the bones.

Considering the pathological condition so produced, it becomes apparent that no hope can be placed upon surgical interference.

## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

It is significant to compare the apathy and even aversion which advocates of the study of tropical disease had to contend with a few years ago with the interest which is now evinced in this subject from all quarters. The close relation of tropical medicine to general medicine, the valuable research which has been done in the tropics, much of which throws light on medical problems at home, and the constant introduction of tropical affections into our own country have all aided in increasing this interest. Regarding the last point it should be remembered that California with its equable climate must be classed by the student of the geography of disease as part of the subtropics. We have no winter to break in upon the routine of the tropical parasitic affections which we may import, and they are consequently able to become endemic. Hence the matter of prevention is as important to us as it is to residents in some of our colonies. Prophetic in this connection is a quotation from a recent address in which Professor Osler foresees that "tropical sanitation will loom larger and larger in the future."

The invasion of Germany by cholera is an interesting and logical outcome of the Russian epidemic mentioned in our last issue and the advancement of this disease, synchronously with bubonic plague, in south China is also to be chronicled. Several important conferences on subjects relating to tropical medicine are hopeful signs of the times. The India conference on malaria and the recent conference in this country on pellagra deserve special mention. Regarding this last disease it is proper to point out here that instances of it undoubtedly exist in California, the writer having recently had opportunity of examining a case in Alameda county. The recent publications of the Sleeping Sickness Bureau in London are admirable illustrations of what can be accomplished in popularizing and disseminating information regarding a difficult technical subject. One pamphlet entitled "How to Avoid Infection" might serve as a model for similar brochures on other tropical diseases. The writer of these lines suggests amoebic dysentery as the subject of such a bulletin to be issued by the Health Departments of the bay cities.

Attention is being daily directed to what is a serious situation. We refer to the presence of endemic intestinal amoebiasis in California, especially in San Francisco and Oakland. A number of medical men have taken up the subject somewhat specially so that cases are being reported at rather alarmingly frequent intervals. The writer has seen several cases quite recently, some of which originated in Oakland. One little outburst was instructive as being traceable to the water supply of the victims. The number of cases originating around San Francisco bay is sufficient to justify a confer-

ence to discuss the medical and civic aspects of the disease.

We have recently had our attention called by Dr. Edward von Adelung of Oakland to a case of filarial haemato-chyluria in a man who has resided for years in Alameda county. The embryos in the blood are of the *bancrofti* type and present the locomotility mentioned by Craig in his description of his *Microfilaria philippinensis*. The case is under observation by Dr. von Adelung and the writer and will be referred to again.

Dr. Colby Rucker of the Marine Hospital Service informs the writer that a small indigenous wild rodent (*Netoma fuscipes anectens* Elliot) has been proven bacteriologically to be infected with the bacillus of bubonic plague. One specimen of this animal was brought to the Federal Laboratory and demonstrated by Dr. G. W. McCoy to harbor *Bacillus pestis*. This rodent is an upper and lower Sonoran form and one of its allies is a boreal form extending into the high Sierra. As the infected species is found from Oregon to Lower California, the deserts of Arizona, etc., the discovery is of great interest and importance. The fact that two genera of wild California rodents have been shown to harbor plague suggests the possibility of a general infection of our indigenous rodents obtaining in the near future.

## SOCIETY REPORTS

### BUTTE COUNTY.

The regular monthly meeting of the Butte County Medical Society was held at the office of Dr. P. F. Bullington, December 14, at 8:30 P. M., President Dr. N. T. Enloe presiding.

Members present: Drs. C. L. Browning, P. F. Bullington, N. T. Enloe, H. M. Parker and Ella F. Gatchell of Chico and Dr. L. L. Thompson of Gridley.

The following officers were elected for the ensuing year: President, Dr. E. A. Kusel of Oroville; Vice-President, Dr. D. H. Moulton of Chico; Secretary and Treasurer, Dr. Ella F. Gatchell of Chico; Member of the Board of Censors, Dr. H. M. Parker, Chico.

After the transaction of the usual business, Dr. P. F. Bullington read a paper on drugless treatment versus medicine, which was discussed at length by the members.

ELLA F. GATCHELL, Secretary.

### SAN JOAQUIN COUNTY.

The San Joaquin Medical Society met in Hanford, in conjunction with the Central California Health Officers' Association, on October 12th. There was a fair attendance only. The morning hours were taken up by the Health Officers' Association. In the afternoon the following papers were read:

"Halux Valgus and Operative Treatment for the Same," by C. T. Rosson, M. D., Hanford.

Halux valgus is a condition that is by nature of its cause found only in adult life. It is a permanent abduction of the great toe and is seen in a condition from slight deviation to complete dislocation.

In the normal foot a line passing through the ball of the great toe produced backward will pass through the ball of the heel. This condition is only seen in babyhood among civilized nations, and in the feet of most uncivilized people who have never worn shoes. All adults who have worn shoes have slight deviation of the great toe outward, which in moderate degree may be considered normal.

Pathologically speaking the condition exists when there is enough deformity to cause pain and interfere with wearing a shoe that fits the foot. The cause of the condition is wearing shoes that are not the right shape for the foot or the shoe is too narrow or short. I also believe that socks that are too short will have a tendency to cause the same trouble. It is often seen in gouty subjects and people suffering from arthritis deformans, which hints that these conditions might predispose to the disease.

The pathology is deviation of the great toe outward and in extreme cases complete dislocation of the metatarso-phalangeal joint. The great toe either lies on top of or underneath the other toes, usually the former. A bunion is on the inner side of the joint and there is deviation inward of the first metatarsal bone, making a triangular foot with the apex at the inner side of the metatarso-phalangeal joint, which is capped with a painful bunion.

The joint itself is practically destroyed, as the articular surfaces do not come together. There is a bony growth at the end of the metatarsal bone internal to the joint, causing broadening of its end. The end of the bone itself is softened and porous, making it easy to cut with a pair of ordinary scissors. The long extensor tendon is also displaced outward, pulling at an angle that tends to increase the deformity.

This condition is often associated with hammer toe, flatfoot, arthritis deformans and gout. The treatment is prophylactic, orthopedic and surgical. The phophylactic treatment is to wear shoes that are the natural shape of the feet from childhood up. The orthopedic treatment is only applicable to those of moderate deformity. It is to place the toe in the proper position and hold it there with a toe post or plaster, or in incipient cases simply make a finger in the sock for the toe and place a bunion button over the bunion. This will give satisfactory results in young subjects with slight deformity. In the more extreme cases this will do no good; it is here that we are compelled to resort to surgery. It is in these cases that the skill of the surgeon has almost been exhausted trying to get the deformity corrected and leave a good metatarso-phalangeal joint, which is essential in order to get good prosthetic results.

Keen and others recommend that the head of the metatarsal bone be resected and the great toe be placed in position, which leaves a crippled joint with practically no mobility.

The best operation, and the only one I know of that will give satisfaction, was described by Dr. Mayo this year.

The incision is made through the skin with its convexity upward and extending well upon the dorsum of the foot, exposing the long extensor tendon. This flap is dissected downward, being careful not to injure the bursa, or bunion.

Next an incision is made with its convexity pointing toward the heel and ankle down to the bone, including the lateral ligament bursa and fascia. This is dissected forward, exposing the joint, letting it hang by a good broad base to the proximal end of the great toe. The head of the metatarsal bone is cut away, making the line of resection pass at right angle through the middle of the bony growth at the head of the bone. The remaining portion of the bony growth is cut away smooth with the long axis of the bone. Now the toe is pulled into place and the bursa ligament flap pushed in between the end

of the metatarsal bone and the articular surface of the great toe. Two catgut satures are passed on the internal side through the bursa and fascia, which holds the toe in its new position. The long extensor tendon is caught with a mattress sature and is transplanted to the inner side of foot, so its pull will be in a straight line with the long axis of the toe and metatarsal bone. The skin flap is satured with silk worm gut. The dressing is either dry sterile gauze or alcohol; Mayo recommends the latter. A large shoe with stiff sole is worn, which takes the place of a splint or toe-post. After this operation, a patient can wear a normal sized shoe, will not limp, or experience the least pain or discomfort. His toe will be straight, his foot normal, the bunion gone and the joint mobile.

There are a few things to be taken into consideration before doing this or any other operation on the feet I don't believe it safe to operate on an old person suffering from arterial sclerosis, for fear of senile gangrene, also where there is endoarteritis, either specific or otherwise, or any one suffering from diabetes. If there is flatfoot or hammer toe they should be corrected, the former with an arch, the latter surgically.

"The Osteopaths—How Shall We Treat Them?" by Geo. H. Aiken, M. D., Fresno.

I assure you, gentlemen, this is not a subject of my own choosing, else it would have been something more profitable and entertaining. Frankly I believe our honorable secretary needed something to fill in, and as this is to be the fill and warp, I shall make it as concise and practical as possible.

As the title of this paper would imply, we do bear some relation to this "pathy" or school of practice, whether it be to our liking or not.

Let us consider, then, briefly what are our obligations (if any) to these people, what is their legal and professional status, what are they, and what have they done, that should entitle them to any consideration or recognition at our hands? I am speaking now of the Osteopath as we have known him in the past, not what he may possibly evolute to in the future. And I am charitable enough to admit that there probably are some sincere, honest, simple-minded people engaged in this work, proud of their vocation, and honest in their convictions; for such as these I have pity, and not contempt.

In 1901 the Legislature of California made it legal for the Osteopaths to practice their profession, but in no sense to practice medicine, prescribe, give medicine, or practice surgery. Whether under this act they have the right to use the title of Dr. only a court of justice would be able to determine.

In 1907 came the fight between the regulars and Osteopaths to restrict the latter in the further issuance of licenses under the law of 1901, and force them to submit to the same examination under the State Board, in which case, they (the Osteopaths) were to have representation on said board. After a long and bitter contest the regular profession won, and thereafter no Osteopath could practice his profession without first submitting to the State examination, and they were given two members on the Board of Examiners. While many had been licensed under the act of 1901, yet that of 1907 effectually put a stop to this, as no more licenses could be issued to the faking, uneducated, pretenders of medicine. Nearly the same fight and compromise was re-enacted at the last Legislature, with that unclassified, undefined hybrid profession so-called, the "Naturopaths." We are always sure to get into trouble when we begin to compromise with the devil, and we got into trouble when we compromised with the Osteopaths and Naturopaths. It was thought to be for the best, and the regular profression had to accept these compromises or see laws enacted which would have humiliated and disgraced us still more.

While the Legislature has seen fit to confer a certain doubtful title on these people, together with some rights and privileges, thank God it has not the power to force our recognition of these self-constituted professional mountebanks. When this pathy sprang into existence, or from whence it came, we have little knowledge. It comes as near to "spontaneous generation" as anything known. It has no honorable record in the past, and little to hope for in the future. As some one has said of the mule, "It has no pride of ancestry, and no hope of posterity." It has no long list of martyrs, sacrificed in the interest of suffering humanity; no great conquests are recorded in the subjugation of pestilence and disease; no sanitary reforms inaugurated, lengthening the span of human life, and lessening mortality.

Just what is the creed, articles of faith, or principles of practice, of this School, I have been unable to find out. As near as I can learn, everything is centered in the spinal-cord. Every ganglia represents and has control, over a vital center, therefore all one has to do is to play upon one of these, as you would on the keys of a piano, and results are forthcoming. The more you pull and pound the back and spinal vertebrae, the better and more startling the results. We all naturally despise sham, pretension and counterfeit, and the Osteopath of the past as we have known him, is a counterfeit doctor, nothing more and nothing less, a pretention and a humbug, all things to all people, that he may gather in their shekles. The reason I have no patient with, or respect for, this so-called school of medicine, is that they pretend to be what they are not, and claim to accomplish results which are not rational or possible.

One is not responsible for what he does not know, but entrusted with the life of a human being, he is criminally responsible, if he attempts to do that for which he is not fitted.

The following two cases treated by Osteopaths of which I had a personal knowledge will fairly well illustrate the professional capacity of the average Osteopath. I was called late one evening in 1902 to see a former patient, who was said to be suffering with severe cramps and colic. On reaching the house I found one of our local Osteopaths in attendance, trying to rub the pain out, but without much success. I learned that he had been in attendance for several days. But as the patient gradually got worse instead of better, the family became alarmed and sent for me. I did not stop to discuss the case or consult with the distinguished gentleman from the other school, but immediately proceeded to determine the trouble. On careful examination I found a well defined tumor in the right inguinal region, suffering much pain, and extreme tenderness over the entire abdomen, with two or three degrees of fever. A plain case of suppurative appendicitis, one which a first year student should have readily diagnosed. Immediate operation was advised, and a large accumulation of pus was found.

My second case was that of strangulated hernia, which had existed for three days. I saw this patient in the evening of a Thursday, with symptoms of well-marked strangulation, and advised the family to have the patient sent to the sanitarium immediately for operation, explaining carefully the gravity of the situation, and danger from delay, and the parties agreed to consult other members of the fam-

ily and inform me of their decision. I heard nothing of the case until the following Sunday evening, when a party came in great haste to my office, stating that they were bringing in Mr. G. from the country to some lodging-house, and wished me to see him at once. On reaching the room I was informed that the party had died on the road. Subsequent to my visit they had called in an Osteopath who promised the family he could rub this patient well in short order, with the result above stated. An autopsy revealed a gangrenous strangulated bowel, with rupture into the abdominal cavity, and general peritonitis. The case was turned over to the District Attorney, but as the family of the deceased did everything to protect the ignoramus who had killed this man, nothing came of it. When we consider such records as these, which is the common experience of nearly every physician in the land, when we consider the positive bad and negative good qualities of this class of practitioners, their low standards, boastful assurance, and stupid blundering, what in the name of heaven do they possess, or what have they done, that should in the least entitle them to any recognition or consideration at our hands?

Yes, gentlemen, when these people shall pass the same examinations, maintain the same high honorable standards as the regular profession, then, and not till then, shall I be willing to clasp their hands in professional courtesy and good will, but, when that day comes, they will no longer be Osteopaths, but honorable, qualified practitioners of medicine.

As in all other affairs of life, each must be a law unto himself, and act according to the dictates of his own conscience, but until those standards mentioned are reached, I shall stand where I always have, uncompromisingly as against any professional recognition of or association with these pretenders of our ancient and honorable profession.

Rev. A. A. Shields made a few remarks to the societies, denying that he had admitted that he believed in the Christian Science healing, as he had been quoted by the daily press. In answer to different questions asked him he admitted that the Emmanuel treatment consisted solely in suggestion, and that he did not believe that any more Divine power was given to him, or to any Emmanuel follower, than to any physician. It seems to me this admission renders the Emmanuel treatment as rather unnecessary.

Judge Jno. G. Covert of Hanford, Superior Judge of Kings county, read a very interesting paper entitled, "Law, and Its Relation to Medicine."

The Chamber of Commerce of Hanford tendered the San Joaquin Valley Medical Society and the Health Officers' Association a luncheon at Esery's Grill, which was very elegantly served and very much enjoyed by the members.

D. H. TROWBRIDGE, Secretary.

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## POLYCLINIC GATHERING.

Feb. 10th, 1909.

Demonstration by Dr. Levison.

**Killian Bronchoscope:** I have here a bronchoscope to demonstrate to you, and also an X-ray picture which I have taken and which is interesting from the standpoint of diagnosis. As you probably know, the bronchoscope is nothing more than a modification of the oesophagoscope, which was originally invented by Kussmaul of Freidburg, who used the straight tubes in connection with an obturator. These are now on exhibition at the Killian Clinic. Mickulicz and von Hacker developed the instrument and made it possible in consequence of their investigations to recognize a number of conditions. The oesophagoscope which is employed at present is a straight tube of different diameters and lengths. It was Killian in 1897 who first introduced a tube into the bronchus. In that year he removed four foreign bodies from the bronchial tract. Killian has accomplished a great deal in this domain and his improvement and technic have been mainly due to his assistant, von Bruening, who has improved to advantage all of the original instruments. As a result one can perform all of the manipulations necessary in bronchoscopy and oesophagoscopy with four different sized tubes, whereas with other instruments more individual tubes are essential.

The patient that I wished to show to-night was unable to come, but his history and the result of the examination is of some importance. The man is 45 years of age and has lost about 40 pounds during the past four months. He has a dullness over the upper part of the sternum. The heart is not enlarged and there is no respiratory change. He has been unable to swallow anything but liquids for quite some time, but it was possible to introduce a flexible sound 8 millimeters in diameter into the stomach. There was a distinct dysphagia. His appearance is suggestive of malignant disease and the difficulty in swallowing is in accordance with this diagnosis, but the passage of a flexible sound into the stomach is not easy to reconcile with the difficulty in deglutition. The fauces and larynx were cocained with a 20% cocain-adrenalin solution, the bronchoscope was then introduced. This exploration revealed a thickening of the mucous membrane covering the vocal cords. The instrument was then passed into the trachea and pushed some distance into this structure without further cocainization of the same. It was seen that the posterior wall of the trachea several inches below the cricoid cartilage was pushed forward, indicating the situation of the tumor. There was no expansile pulsation of the anterior wall of the windpipe, such as is seen when an aneurysm is present, consequently an aneurysmal tumor was excluded. It was not possible to introduce a tube into the oesophagus on account of the pain the patient experienced. On the following day the patient was given gruel mixed with bismuth, which it was not possible for him to swallow. In the midst of his attempt to expel what had entered his gullet an instantaneous X-ray picture was taken. This revealed a definite shadow 3″ in diameter, indicating a dilation above a stenosis of the oesophagus. (Several days later the patient died of a broncho pneumonia, and the autopsy revealed an annular obliterating carcinoma of the oesophagus corresponding to the situation which was recognized by the bronchoscope.) The diagnosis was of more interest to me on account of the fact that it was based principally upon the bronchoscopic findings.

### Discussion.

Dr. Cullen P. Welty: We have two different types of instruments for examination of, and operation within, the bronchi and oesophagus. They differ most in the situation of the lamp for illuminating purposes. The Jackson lamp is at the distal end of

the examining tube, and of necessity more illumination than in the Killian lamp that Dr. Levison has shown. Again, the Jackson lamp is better in inexperienced hands as the light itself is in the immediate neighborhood of the part to be examined. While with the Killian lamp, and in fact all others, the light is reflected, this not only requires very careful adjustment and manipulation, as well as a trained eye with the reflected light. I had hoped that Dr. Levison would bring his lamp and make comparison in regard to illumination and the points I have spoken of would become very apparent. The one advantage that the Killian instruments have over the Jackson is the extension tube. However, this extension tube is not so necessary as it might seem for the reason that the foreign body or tumor may be located with the X-ray. Again, it must be remembered that you can see equally well through a long or short tube that carries a Jackson lamp. This is because of the position of the lamp. In reflected light there are numberless difficulties to overcome when you are looking through a long tube. The introduction of the tubes is quite easy as soon as a few technical points are well comprehended.

Dr. Zobel: These tubes being of the same principle as the proctoscope, a point can be made which will apply to both, that the light at the end of the instrument is so strong that very often you will imagine you have an inflamed process present in the mucous membrane, whereas it is just accentuated by the intensity of the light. Another thing with regard to the accumulation of mucus on the tube; there has been made a modification in the proctoscope where the light fits into a fixed glass at the end of the instrument so that should it become clouded with fecal matter by just inserting something covered with cotton it can be wiped without removing the instrument.

### Exhibition of Patient by Dr. Levison.

**Sarcoma of Thigh:** I have here a specimen which was removed from a girl 23 years of age who has been suffering with a swelling in her knee for the last eight or nine months. During the past three months she has been incapacitated and has employed crutches to get around, but she has not been able to stand on her leg. When the leg was first seen it showed an involvement at the region of the inner condyle on the right side. She gave a pronounced history of tuberculosis. The mother has weak lungs, her two brothers have had their legs amputated on account of diseased bones, and one sister died of consumption. The examination revealed a swelling situated at the inner condyle. This was smooth on its surface and did not reveal fluctuation. The joint appeared uninvolved but its excursion was limited. The diagnosis in view of the history was a bone tuberculosis not involving the joint, but the absence of temperature made it impossible without exploration and without tuberculin tests to differentiate between sarcoma and tuberculosis. The X-ray revealed a diseased bone with a mass springing from the medulla and raising the periosteum. Operation: An incision was made through the skin which revealed a mass under the muscles resembling hematoma. This was incised and the bone found to be completely disorganized. The moment that this mass was disturbed an alarming hemorrhage occurred to a degree which I have never seen equaled before. Within a space of a few minutes the patient became almost exsanguinated. Packing of the wound and compression of the femoral seemed to exercise no influence and it was only after an Esmarch bandage was applied that the hemorrhage was controlled. The bone was curetted and an attempt was made to perform a conservative operation such as I believe should be done in this class of patients, as statistics have shown the medullary sarcoma is frequently amenable to conservative treatment, and this was what was followed out. After the medullary cavity was curetted and packed, the bleeding was controlled and the patient was put to bed with the Esmarch bandage in position. This was permitted to remain for several hours. Subsequent dressings showed that the hemorrhagic tendency was present and on several occasions it was necessary to re-apply the elastic bandage following the dressings. After ten days it was seen that the knee was again swollen and the track of the drainage tube became filled with granulation tissue. As the microscopical examination revealed a mixed cell sarcoma consisting of large irregular cells and spindle cells (no round cells), an exarticulation at the hip joint was decided upon. Amputation was performed after the method of Wyeth without the loss of a tablespoonful of blood. Before the Esmarch bandage was applied, the leg was elevated and the venous channels were emptied of their blood by gravity. The long pins were introduced in the usual situation. In performing hip joint amputations I have always separated the muscles from the head of the bone from below, but in this instance the head of the bone was freed through a vertical incision made over the trochanter, and which was continued downward as soon as it was freed. After the muscles were separated from the trochanter a long lateral incision extendng down to the bone was made. This reached to about the middle of the femur. A circular incision of the skin was made here and the section of the muscles was made higher up; the vessels were all clamped before they were cut and the sciatic nerve was blocked by injecting a 1% solution of cocain. When this nerve was cut there was no change in the character of the pulse, indicating a definite interference with the afferent nerve impulse. The bone was readily removed from above because of the separation of the muscles which had been done as a preliminary step in the operation. The amputation was without incident with the exception that the outer pin interfered with the separation of the muscles which were attached to the greater trochanter. Specimen: When this was opened it was found that the femur in its entirety up to the head was filled with tumor mass of a chocolate color. There were but two small areas of normal cancellous tissue in the head of the bone which remained uninvolved.

### Discussion.

Dr. H. A. L. Ryfkogel: We are all very much interested in these sarcomata of the long bones and the trend of surgical opinion has been very definitely changed in recent years and instead of doing an amputation of the highest joint it is now becoming the custom to resect them; it is true that the resections have given better results. Both the ultimate and the immediate results are better. The principal reason for this is that certain of these types of tumors do not form metastases, that is, the giant cell and osteo sarcoma and certain of the chondrosarcomata. The more bone, for instance, present in sarcoma the less likely it is to form a metastases, tumors of all other types are exceedingly malignant. The mixed cell sarcoma is the most malignant of all. These tumors practically always recur when an amputation has been done, though curiously enough a few have not recurred after resection. Recurrence usually takes place in the scar. It is supposed that the great trauma has something to do with these recurrences. There has been a method adopted in treating these very malignant tumors which has met with good results, that is mere scooping them out of the capsule without attempting to do a definite resection and then treating with the X-ray. Some good results have been remarkable indeed. In my service at the City and County Hospital in the past three years there have been three cases of sarcoma of the bones, one a giant cell sarcoma that was first

curetted out. You will remember that the indications for treating giant cell sarcoma are to first curet it and that will cure probably the majority. If recurrence takes place you resect it subperiosteally if the peritoneum is not involved, and if it is you do a complete resection. Cases have been reported in which microscopical sections show that resection had been done within a couple of mm. of the growth and no recurrence has occurred. In the case of which I speak it was decided to do an amputation for further examination showed that the limb would be useless by the time we removed the lower part of the femur and the upper part of the tibia. The second case was a case of spindle cell sarcoma of the upper third of the humerus which involved the great vessels and the scapula. I showed this patient some three and a half years ago. The case ran along for nearly three years without any trouble, when one day while walking along the street he was taken with paralysis and fell upon the sidewalk. He was taken to the hospital, where gangrene of one leg developed, the leg being amputated by Dr. Huntington. He afterwards died at the City and County Hospital with metastases in the lungs. The last case which I had was a chondro sarcoma of the lower end of the femur. I did a resection in this case but the man was dissatisfied with the shortening and the leg was useless. We took out 8″ of the femur and when he asked for amputation I was only too willing to do it. He is now perfectly well so far as I can make out.

**A Case of Bismuth Poisoning,** demonstration by Dr. Barrett: Two or three months ago I presented before the Polyclinic Clinical Society a series of cases in which I had used bismuth paste for the injection of sinuses. One patient was a man who had had an abscess beneath the gluteal muscles. He came to us with a diagnosis of rheumatism, for which treatment had been had extending over some four or five months. The patient had been under salicylates and treated with various medicaments and massage and the things usually employed in these cases. When I saw the patient the abscess was about the size of a musk melon. Under infiltration anesthesia we evacuated this abscess through a small incision after separating the fibres of the muscles and after the evacuation of the pus, injecting the bismuth paste. We regarded the case as probably cured with one injection because it remained closed for four or five weeks. A little later, however, the patient presented himself at the office with a sinus discharging freely and we added paraffin to the bismuth paste and injected that. One day he reported that he had had a severe diarrhoea. We looked at his gums and found a discoloration along the borders of the gums which became more marked as the time passed. We ceased the administration of the paste but the discoloration became still more marked, the mucous membrane of the lower lip showed a dark area, he became weak, had a slight dyspnoea and became very much darker so far as the skin was concerned. We had other reports of diarrhoea at intervals. Shortly after that I noticed in the Journal of the American Medical Association a review of the literature and a report of a case by Beck on bismuth poisoning. This patient whom I presented began to gain at first after his operation and had gained three or four pounds during the time of the early injections, but lost weight from the diarrhoea and because of the fact that he was unable to eat. He presents on the gums and on the inside of the lower lip a dark deposit. It is now fading a little bit because he has had no bismuth for a month. This is the first case that I have seen of chronic bismuth toxemia.

### Discussion.

Dr. J. T. Watkins: Yesterday I was at the Children's Hospital and saw some six or eight children on Dr. Sherman's service whom Dr. McChesney has injected with the bismuth mixed with paraffin, and was enormously impressed with the benefit that these children are deriving by this line of treatment. I believe that this is the greatest advance in the treatment of tuberculosis of the joints since the introduction of the use of plaster of paris. When I first came out here seven years ago I had an impression that tuberculosis in Vienna was pretty bad, but that in New York, where it received more attention, it was worse, that in Boston it was still worse, where the men were paying still greater attention to it than in New York. Dr. Bradford had an idea that he could do a dislocation in a tuberculous joint to prevent the destruction of the joint due to the crowding of the femoral head into the diseased acetabulum by the spastic muscles, and he had several cases in which he had dislocated the head out of the socket and had left it upon the ileum posteriorly. I suggested that he displace anteriorly. The cases were not followed up further than that and I imagine he was not satisfied with the results obtained. Then I came to San Francisco and it seemed to me that here, where Dr. Sherman gave a degree of attention to his cases which I have never seen equaled, tuberculosis was worse than I ever saw it anywhere else. We did so many of these hip joint amputations that at one time I was told we had the world's record at the Children's Hospital for the Wyeth amputation. Of late years we have not had occasion to do as many as we used to do, I do not know how to account for that. Our methods are changing little by little, we are doing less of the traction and less of the bed treatment, and we are getting the patients up more and more and out in some form or other of apparatus. This bismuth, however, seems to work like a charm upon those cases in which there is suppuration and a mixed infection. We have children there to-day whom I would have thought would come under former methods of treatment to excision and amputation, but they are so much better in the comparatively short time Dr. McChesney has been injecting them that it is difficult to recognize them as the same children.

Dr. Harold Brunn: Until recently bismuth subnitrate was considered non-toxic and the few recorded cases of poisoning after its use were ascribed to arsenic or other impurities. The first authentic report of true bismuth subnitrate poisoning was recorded by Kocher in 1882; he observed that insoluble preparations of bismuth when applied to large wound surfaces may be absorbed to such an extent as to produce characteristic symptoms of acute stomatitis, black discoloration beginning at the border of the teeth, spreading over the mouth, followed by intestinal catarrh, pain and diarrhoea, and if the poisoning is severe a squamative nephritis. Some six years ago I saw a case presenting symptoms similar to those in a woman who had an extensive burn and to which had been applied a paste of bismuth subnitrate and castor oil. In contradistinction to this poisoning bismuth subnitrate may cause severe symptoms by liberation of nitrites producing a pure nitrite poisoning. This transformation into the nitrites is usually produced by the action of intestinal bacteria on the subnitrate. Bohme proved by experimentation in a test tube that feces of children in contact with bismuth subnitrate liberates nitrites. An interesting case was recently reported by Eggenberger in which following the injection of a sinus of a psoas abscess in a child aged seven, 30 grams of bismuth paste was retained six weeks. Stomatitis, resembling that due to mercury, developed, pulse 130, cerebral symptoms like meningitis; although the bismuth was evacuated death occurred in a few days. It further appears that we have two forms of bismuth subnitrate poisoning, the one an acute process due to the nitrites, and the other a chronic form due to the bismuth.

## SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular Meeting September 14, 1909.

### Case Reported by Dr. Ryfkogel.

**Sarcoma of Shoulder.** The history of this patient whom I wish to present to-night is similar to that of a patient whom I brought before the society three and a half years ago, a case of intrascapular thoracic amputation. The first patient's operation was done for a rapidly growing spindle-cell sarcoma of the shoulder, involving the great vessels, the joint and the scapula. The man remained practically well for three years, when he had a recurrence in the lung and after another amputation he died, three years and six months after his first operation, a considerably longer period than the average. This patient to-night has had his amputation for another purpose. He had an epithelioma of the finger which developed five years ago. The finger was amputated but the growth progressed and Dr. White of Sacramento amputated that arm at the middle of the humerus four years ago. The patient remained perfectly well until August, 1908, when he noticed a mass in the axilla and about a month later it broke down. When I saw him in November he had lost very greatly in weight and was continuing to lose rapidly and was apparently shortly about to die. I did the amputation and have here the specimen which, however, does not show the extent of the growth. It was impossible to remove it by curetting or local resection because it invaded all the great vessels and nerves, so I decided to do an antrascapula amputation. This was done the middle of last November, and the man made a very rapid recovery. We left a very large area which the patient did not wish to have grafted, but it has now healed over. There is a very interesting point in comparing these two cases. In the first case the nurse had not prepared the cocain for the infiltration of the brachial plexus, the man was in a very good condition yet he developed symptoms of very severe shock which did not disappear for forty-eight hours. The present patient, however, was very much enfeebled before we excised the brachial plexus and he was in better shape at the end of the operation than at the beginning. The operation is a very easy one. After the preliminary ligation of the subclavian artery and vein the arm almost falls off. The remarkable thing in this case is the rapidity with which this patient has gained weight since the operation. The man unquestionably has pulmonary metastasis since he had a cough developing about the time of the growth in the axilla. The operation was not done with the expectation of curing him but of prolonging his life and making him comfortable. I think these amputations should be done more frequently and particularly in extensive carcinomata of the breast. If you try to clean out the growth in the axilla you injure the veins and even if you do not the veins become occluded and you have a very painful swollen arm of no use to the patient. This operation certainly relieves the suffering in the condition.

Dr. Ethan Smith demonstrating cases:

I have here some cases with vertebral tuberculosis and my purpose in showing these cases to-night, is not with the idea that I am showing anything new, but something quite time-honored. This first patient is wearing a plaster of paris jacket with a jurymast, and I believe this to be a most hygienic, most humane and most effective means of treating tuberculosis of the spine, in whatever form you find it. This little boy when he came into my hands, was on his elbows and knees and there was evidence of fluid in the pleural cavity on the right side. The temperature was 102.5. It would take him nearly ten minutes to cross a room on his knees and elbows, and he was compelled to take his food out of a saucer with one hand while reclining on the knees and elbows. His spine is now so nearly solid that he can dispense with the jurymast. In addition to this trouble he has had an attack of whooping cough recently, which was very severe, and also acute mastoiditis on the left side. Besides he has had diphtheria and pneumonia. He has so much improved under this treatment, that he is now going to school and has no trouble in getting around at all.

The second case came to me with quite a bit of disability. She was not able to stand or walk easily. She had had an abscess, which had been treated very well and when I saw her it had healed temporarily. It again opened, however, and healed under bismuth paste. She did not do as well as I wanted, until the jurymast was applied. The condition was high up in the spine. She is now going to school.

The third case came to me from Arizona about three months ago, was unable to sit or stand. He is now recovering from an attack of gastritis, and on this account he is not as steady as he might be.

Dr. Samuel J. Hunkin discussing:

Of course these cases are interesting to me, but I hardly care to let them pass entirely without calling attention to the faulty principle of treatment, here shown, which differs radically from the principles followed by men of standing throughout the world. The apparatus shown here is based upon the double cone principle, that is, taking the pelvis as a cone, to make it support an inverted cone above it. This plan is not usually followed to-day, but apparatus is used based on a lever principle, which is much lighter and incidentally much more efficient. In the cases shown, which aim to lift the upper segment on a jurymast, the mechanics are not properly carried out for it is arranged in each instance so that the base of the jurymast is fixed on the kyphos with the plaster curving over the kyphos, so that weight must of necessity be transmitted throuh the kyphos and not direct to the pelvis, besides the tiny children have no pelvis capable of handling the weight. While the apparatus does give a certain amount of immobility and helps a little in that manner it can only be looked upon as crude and inefficient.

Dr. Ethan Smith, closing discussion:

In all due deference to Dr. Hunkin's opinion, I will say that the weight is not borne by the kyphos but upon the crests of the ilii and the pelvis where it should be. The front is so arranged as to prevent harmful pressure. Crude though the method may be, these cases get well and I will add that one of these cases was treated by the stretcher frame and came out of a hospital not very far away, in a very pitiable condition, but is getting along very well since I have applied this apparatus. These patients who could not stand when they first came to me are now able to walk. While the apparatus may be crude and all that sort of thing, the children get better and get well. I am entirely satisfied with the crudity!

Dr. J. C. Newton, demonstrating:

I wish to demonstrate to-night a case of external anthrax. I do not know how frequently this disease has occurred in this part of the country. It is referred to in the text books as a rare disease. There were fifteen cases treated at the General Hospital in Philadelphia in five years, and one case in sixteen years at Johns Hopkins Hospital. Dr. Tait

has told me that he has treated a number of these cases here. There had been on the ranch from which this patient came between two and three hundred cattle die of this disease within the past three weeks. About the 16th of August, the day following the removal of the hides of several dead cows, the patient noticed a small pimple on the back of his hand which rapidly enlarged. On the third day he consulted a physician, who incised and cauterized the wound. This apparently had no effect and it continued to enlarge. I saw him ten days after the pimple started. He was then complaining of malaise, headache, loss of sleep and appetite, and enlargement of the epitrochlear and axillary glands. There was no pain. The temperature was 102.2, the pulse 110; there was considerable oedema of hand and forearm. On the dorsum of the hand there was a circumscribed indurated carbuncular lesion about 2 inches in diameter, dark bluish in color and covered with vesicles, containing a bloody fluid. The smears from the wound showed bacilli resembling anthrax and the diagnosis was verified by guinea pig inoculations, the first pig dying within forty-eight hours after the injection. Three days later Dr. Ryfkogel injected a pig and the result was negative; at that time the ulcer had been treated with germicides for three days and with evident effective results. I have here under the microscope a smear from the spleen of the inoculated guinea pig, which plainly shows the bacilli. There are also tubes of its growth on blood serum. The diagnosis in these cases presents no difficulties, the microscope is resorted to immediately and there is no doubt about it, the findings being verified by animal inoculation. The occupation of the patient is significant and the central eschar-crown and indurated base of the lesion is also typical. The only other condition for which it is liable to be mistaken is carbuncle. Anthrax pustules usually develop rapidly; this one evidently developed within 24 hours of the inoculation. The treatment varies considerably from mild local applications to radical incision with varying good results. The 15 cases reported in Philadelphia were treated by radical incision and sclavo serum; all but two of these cases recovered. Barlach has used the galvano cautery in thirteen cases, and most of them recovered. Struebel recommends the use of carbolic injections. I injected in this case in three different places five drops of pure carbolic acid, followed by local applications of mercury cyanide 1:2000 and alphozine 1:1000. Internally, guaicol carbonate and quinin sulphate 5 grains are being given. The Cutter Laboratory in Berkeley is preparing an anthrax vaccine, but on account of the strongly resistant spores some difficulty is being experienced. As to the prognosis the internal form is usually fatal. In three cases the mortality is given as about 25 per cent.

Dr. H. D'Arcy Power, presentation of cases:

The two cases which I have to show you this evening I am bringing scarcely so much for the condition of myxedema as for some of the accessory symptoms which give it an interest apart from the myxedema. The two cases came under my charge about one month ago with the following histories: The mother was in excellent health up to the time of the birth of the daughter. Shortly after the birth of the child she commenced to suffer from weakness and rapid and progressive enlargement of the face and of the soft tissues of the upper part of the body, the hands became clumsy and she seems to have gone on for many years in more or less of an invalid manner without any diagnosis having been made of the case. The child was born about the time of her first departure from health, she grew up in an abnormal manner, always being too stout, excessive in the size of the legs and hands, and suffering, like the mother, from general debility and presented the ordinary characteristics of myxedema. There was no diagnosis made in the early stage, and a positive diagnosis was not made until three years ago, when a practitioner put the girl under treatment with thyroid followed by rapid improvement. The mother's condition was even then not noted and she passed on without treatment until early in this year, when a practitioner in Nevada seeing the case made the diagnosis, and instituted treatment in the usual manner. The mother made a more rapid recovery than the child and the greater part of the adipose tissue passed away, the working capacity increased and she is here with comparatively little of the myxedematous symptoms left. Both of these patients came to me because they seemed to have reached a point where further progress was not being made, and in the case of the girl a further diagnosis was made of an aneurysm of the aorta; this was the point upon which they sought my advice. The mother is practically well; I have had her under treatment for the last three or four weeks. Her fingers have improved greatly under treatment. The girl's condition is interesting in several ways, because it presents some departures from the normal myxedematous type. Never at any time was she affected much in mentality, the development has been normal; she menstruates regularly, there is nothing abnormal in the digestion or in her fingers. We have still some of the peculiarities partly of the myxedematous and partly of the mongoloid type. It is often sharply differentiated, but here you can see for instance that she has the epicanthus, has the arching of the eyebrows, also met with in myxedema, and a brachycephalic condition. The index is 86. The hips are asymmetrical, there being a difference of 2 inches on the two sides. I have here some photographs which were taken four weeks ago, since when there has been a marked improvement. When she came under my care there was a great deal of pigmentation of the face, which is now improved. The photographs show the reason for the diagnosis of the aortic aneurysm. There is considerable enlargement of the upper portion of the right thorax over an area of some 7x8 cm. I examined her very carefully but cannot justify the diagnosis, there are not the usual symptoms or signs of aneurysm. I had the X-ray plates taken, thinking that there might be some sarcomatous change, but the radiograph showed, as you see, the bones perfectly clearly and the aorta is defined and normal. Extending beyond the aorta you will notice that there is a decided dark area running down with perfectly definite outline, and also shadow masses extending more or less all the way from the upper portion to the lower part of the heart; furthermore, the right ventricle is considerably dilated, although the girl is not suffering with any cardiac symptoms. I came to the conclusion that we were dealing with a large persistent thymus gland, but I am not sure that the enlargement of the heart is due to the pressure. We have demonstrably a case of thymus enlargement as shown in the radiographs. In looking up the literature I find that Wertin gives a good description of thymus enlargement, and he makes the statement that as a rule the thymus lies behind the sternum and over one-third of the pericardium. The lower formation may extend to the apex and these shadows are probably diffuse thymic masses. In other cases they may ascend as high as the floor of the mouth. Again he says that bulging of the upper part of the sternum has been met with in many cases, and that the body fat is usually abundant and very much increased. The facies are of the adenoid type and the complexion is pasty. We have to consider how many of these symptoms are hyperthymic rather than hypothyroidic.

Dr. Ebright discussing:

The cases which Dr. Power has presented this evening are peculiarly interesting in that they both occur in the same family, and also in that they come from a region in which we know a great many goitres occur. While diccussion of the treatment of myxedema is not included in the scope of Dr. Power's remarks, the mention of two important points is forced upon us. On one hand large doses of thyroid extract are too often given at the start without a close watch for tachycardia, which is probably one of our best guards against overtreatment. On the other hand after some months of successful treatment the patient is very prone to feel secure in taking the daily tablet and is lost sight of. He should be made to understand that his best interests demand that he shall report to his physician at least once or twice a year.

Dr. H. D'Arcy Power, closing discussion:

I ought perhaps to have shown you a copy of the radiograph in Dr. Wertin's report. This gives practically the same condition which I have shown in this patient. Here is a radiograph of a normal aorta and heart, and here is one from a patient having thymic asthma. The latter shows practically the same condition of the upper part that is present in mine, except that you have not the diffuse masses scattered over the heart. The point as to the extent of the mass on the right thyroid can be reasonably accounted for. We have to remember that the thorax is in an extremely small space and does not allow much adaptation. The distance between the sternal notch and the spine behind is only 2 cm., therefore there could be no absolute growth in that direction without tracheal compression, and it is said that thymic death is due to this cause. Now there is no reason why both of the lobes of the thymus should be enlarged and under condition of pressure due to the large mass it seems to me to be perfectly natural that the growth should tend toward the right more than to the left. In the limited area where the growth has taken place there is the adaptation usual in the body and the growth is directed to the larger area. As to whether the shadows are fat masses or thymic masses we must remember that the report shows that growths may extend all the way from the floor of the mouth down to the apex of the heart, and we might look upon them as lymphoid growths. As to the question of the rapeusis, both of the patients had been neglected in the proper administration of the extract. When they came into my hands they were using 15 gr. per day; I increased it, but had to go back because of the rapid action of the heart, and so brought it up to 22-25 gr., and most of the swelling disappeared; the girl is greatly improved. As to surgical interference I do not think when we meet with an enlarged organ we should on that account immediately take it out, and for this reason I am content to let this girl keep her thymus as long as it does not interfere with her life nor with her comfort. As to whether we should attempt transplantation of thyroid tissue I say that she is doing well, and I think thoroughly understands the need of keeping up the treatment, which she will probably do, and finally it will not cost more than the fee for a surgical operation yielding doubtful results.

Dr. George B. Somers:

### Procidentia Pessaries.

The question is asked, what can be done for an elderly woman suffering from prolapse of the uterus? In many such cases operative measures are out of the question, and as for pessaries, very often both physician and patient have given them up in disgust because they have failed to support, or even worse, have produced troublesome erosions and ulcerations. If then we have to consider a case of this sort and find that operative measures are out of the question, we must go back again to the pessary and endeavor to find out some mechanical means of giving relief. There are two ways of solving this problem. We may turn to the instrument maker or to the text books and find out what they have to offer as a mechanical help in this direction. We will find a large variety of suggestions and may proceed to try them one after another until we find a satisfactory instrument. This is the historical or empirical method and is the method usually adopted by the text books, but where we follow out a method of this sort we can gain no knowledge as to the principles which underlie the problem. The better and more satisfactory way is to go to the other end of the proposition and try to find out what the conditions are that require treatment. This is to investigate deductively. To do this we must take up the anatomy, the mechanics, the pathology of our subject. Understanding then what we have to deal with we may get some mechanical idea which will help us to treat the condition rationally. I have here a diagram taken from Garrigues which is sufficiently clear to demonstrate the point I wish to make. It will be noticed that a portion of the hip has been cut out so as to expose the levator ani and rectum. An open space is represented, which is the situation of the so-called perineal body. This open space is occupied by fascia and by certain small muscles, together with a band of the levator ani, which passes across from one side to the other. This diagram shows that a considerable portion of the anatomy of these parts is given up to the perineum, the chief function of which is to keep the vagina closed by muscular action. Now then if the perineal body is injured, if the muscles and fascia are lacerated, the parts that are injured naturally retract to one side and we can imagine that a space such as is shown in the diagram. With the loss of tissue that accompanies the perineal injury the posterior vaginal wall drops back and comes in contact with the anterior wall of the rectum. We then have dividing the vagina from the rectum only a thin septum, which consists of vaginal mucosa in contact with rectal mucosa. With nothing to keep the vagina closed, it is easy to understand the tendency of the anterior and posterior vaginal walls to sag down and form rectocele or cystocele or both. In addition the sagging of the vaginal wall pulls on the uterus and assists in the production of a prolapse. There are then a number of forces which combine to pull the uterus down: (1) Abdominal pressure. (2) Weight of the uterus itself. (3) The pressure of overfilled bladder and overfilled rectum. (4) Pull of the rectocele and cystocele. In order to study a method of rectifying prolapse which follows injury to the perineum we must see what is left in this part of the body upon which we can depend. What is there that will support any sort of a mechanical instrument sufficiently to keep the uterus in place? If we make a dissection of the perineal region we find that we have the big levator ani muscle acting as a floor. You will notice two things in diagram No. 2. In the first place the opening between the two edges of the levator ani is apparently quite large. In the normal condition there is a connecting band between these two edges serving not only to keep the edges somewhat close together but also marking distinctly the vaginal and rectal openings. When this connecting band is lost the edges separate and we have really a hernia of the uterus and vaginal walls. The next point is that running antero posteriorly there is quite a thick and distinct

band of fibres called the pubo-coccygeus, which forms the edge of the levator ani next to the vaginal wall. Now in a case of prolapsus if we put the examining finger into the vagina it will hook onto a shelf formed by the upper surface of the pubococcygeus. Now presuming that this shelf will give some support, suppose we try to treat a case of prolapse by use of a ring pessary. Suppose we fit a ring carefully in the vagina with the idea that it will rest on this shelf; we find perhaps that the next day the patient comes back saying that it will not stay. We next try a disc pessary, and she comes back with it in her hand. We try the ball, and this also proves unsuccessful. Let us try then to find an explanation of the reason why these forms do not hold. In the third diagram I have tried to represent the mechanics of a ring or disc pessary when in position. It will be seen that the main support of the ring is the pubococcygeus; that any pressure from above on the ring causes it to act like a wedge, will gradually force the edges of the opening apart, and finally force the ring completely out. The same mechanical principles hold with reference to the disc and the ball. Having found the cause of the inefficiency of these pessaries, can we make use of these tissues in a different way so as to give us a better result? I have shown that there is a shelf within the vagina on either side formed by the upper surface of the pubococcygens. I have here another diagram which illustrates a pessary formed in order to adjust itself to this shelf. The pessary is shaped from a hard rubber ring. It has a distinct projection from below which fits in between the edges of the pubococcygeus, and two wings which rest upon the shelf already described. This pessary which is shown here is not only rationally shaped to conform to its base of support, but has been found of great practical value in actual practice. In our clinic work where we cannot find any other forms to answer the purpose of supporting a prolapsed uterus these pessaries will give the patient relief at once. I have been in doubt as to how to designate such a shaped pessary, but think that perhaps the most characteristic name would be the shelf pessary.

Dr. Henry Walter Gibbons, San Francisco, discussing:

In conjunction to what Dr. Somers has said it might be interesting to cite a specific case in which these pessaries have been used. About a year ago, a German woman about sixty-two years of age, the mother of many children, came to the clinic with the uterus in a condition of complete prolapse. There was an area of ulceration about 2 inches in diameter around the os, which was extremely irritating and bled very easily upon the slightest touch. The uterus had been prolapsed for several months the ulcer having increased gradually in size. The uterus was reduced with considerable difficulty and tampons were introduced, but the next day it had prolapsed again. Various of the ordinary procidentia pessaries were tried, and as described by Dr. Somers, they were never retained, and the woman would come the day after one had been inserted with the pessary in her hand. Dr. Somers devised this pessary and we tried it. The uterus stayed up from that time on. The ulcer at the cervix was treated every few days and healed completely in a short time. There was a slight ulceration from the pressure of the pessary, but this also was easily cured by applications and by leaving out the pessary for a few days at a time. When I last saw the patient about two months ago she was coming to the clinic about every two weeks, and was infinitely more comfortable than she had been for months before.

Dr. Frank P. Topping, San Francisco, discussing:

Knowing the subject upon which Dr. Somers was going to speak this evening, I gathered from the reports of the Cooper College Gynecological Clinic a few cases (nine in all), in which this pessary had been tried. In every case the pessary has held, the only failures have been where there has been a diseased mucosa, where erosions had to be dealt with, that is the erosions caused by any foreign body, even the softest and most unirritating tampon. The first case in which this pessary was tried was put in in July, 1907, and has been worn for 26 months. The woman was 56 years old with a persistent cystocele and previously a complete prolapse. I believe she had been operated upon for her prolapse which she had had for 37 years, the uterus and adnexia had been gotten rid of by a hysterectomy, she then had the persistent cystocele. The second case is the best illustration; the woman is 63 years old, she had a complete prolapse for many years with very extensive erosions. She had worn all kinds of pessaries, and cloths when the erosions were so bad that the pessaries could not be borne, and came in with severe erosions and quite a bit of hemorrhage. She has now worn this pessary for twenty months. For nearly two months we treated her almost every day to heal the erosions. Once we got them healed she was able to wear the pessary, and no erosions have occurred whatever. She comes every three or four weeks, and we remove the pessary and replace it. The third case is that of a woman 65 with a complete prolapse for twenty months, and very extensive erosions. These caused her very little pain. The pessary holds in excellent shape and when we have to put in a tampon she goes away almost in tears because the pessary has been left out. The fourth case has worn the pessary for thirteen months. She entered with a complete prolapse and very extensive erosions, which had been there for one month. In every one of our cases there has been complete success as far as relieving the hernia; the only difficulties in these cases are the erosions which have to be dealt with, and which exist independent of the insertion of any pessary or tampon.

Dr. F. W. Vowinckel, San Francisco, discussing:

I would like to call the attention of the audience to another form of pessary which I have used in the last 24 years, and which I think answers the purpose completely, the old Hodge pessary. It is bent so that both sides become even and is introduced in a transverse way into the vagina, the two ends rest on the shelf of which Dr. Somers has spoken, and the prolapse is relieved without trouble. I have used it in a great many instances where all other forms had failed, and can recommend it very heartily.

Dr. George B. Somers, closing:

As Dr. Topping has said a word with regard to ulcerations I may add that ulcerations which occur in cases of prolapse of the uterus are not always due to pressure or to the pessary. They are sometimes due to the prolapse itself, in other words, when the uterus is completely prolapsed and when the anterior and posterior walls come out into the worls there is a great deal of tension. The result is that we get a fissure or crack or separation of the mucous membrane which becomes the starting point of the ulcer. In other words, in many cases it is the prolapse and not the pessary which causes the ulcer. This is an important point and it shows the desirability of keeping the uterus reduced as much as possible when trying to cure ulcerated surfaces and often there is no other way to cure these cases than to put the patient to bed and keep her there until well before attempting to use the pessary.

## UNITED STATES PHARMACOPOEIAL CONVENTION.

President Horatio C. Wood has appointed the following committee on credentials and to make arrangements for the United States Pharmacopoeial Convention, which will be held in Washington, D. C., beginning Tuesday, May 10, 1910. Professor O. T. Osborne (chairman) Yale University, New Haven, Conn.; Dr. H. C. Wood, Jr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; Mr. L. S. Hilton, Washington, D. C.; Mr. W. L. Cliffe, Philadelphia, Pa. and Dr. James H. Beal, Scio, Ohio.

The following officers of the convention are ex-officio members of the committee: President, H. C. Wood, Sr., University of Pennsylvania, Medical Department, Philadelphia, Pa.; secretary, Dr. H. M. Whelpley, Washington University, Medical Department, St. Louis, and assistant secretary, Dr. Murray Galt Motter, Hygienic Laboratory, Washington, D. C.

## TROPICAL MEDICINE.

The New York Post-Graduate Medical School is establishing in its new buildings a full equipment of wards and laboratories for the teaching of Tropical Medicine. The department is being conducted under the co-operation of the U. S. Army, Navy and Public Health services, who detail officers from their respective medical corps to assist in the conduct of the laboratory and clinical courses.

# BOOK REVIEWS

**The Principles and Practise of Medicine.** By Wm. Osler, M. D. Publisher, D. Appleton & Co., New York, 1909.

Osler's Practise of Medicine has long been one of the classics of American medicine, and this country is still proud to claim it, even though its illustious author now makes his revisions from a foreign land. The last one of these, constituting the seventh edition of the book, has recently been issued. It brings the subject matter thoroughly up-to-date, incorporating the many additions that have been made to our knowledge during the past three years since the previous edition appeared. For one who has used this book as a guide in teaching for the past fifteen years, who during these years has read it all and parts of it many times, who has also had the privilege of becoming familiar with the author's methods of teaching at first hand as well as by reading, it will perhaps be excusable if no word is said except in praise and appreciation. There is no other text-book on medicine in the English language equal to this, as there is no other teacher equal to Osler. Many qualities combine to make this work of inestimable value, but these qualities are after all those of the man who writes the work. His immense experience, his erudtion, his clear method of thinking and of presenting his subject, his simplicity of style and absence of diffuseness, his sense of perspective, his kindly sympathy and above all his hopefulness and enthusiasm unite to make this book one that has no counterpart. This last edition has all the good qualities of the old ones, recognized the world over, ever since the first appeared. In addition it contains many recent advances in medical science heretofore scattered throughout journals and not incorporated in any one text-book. It has always been the best and this edition only maintains the long established supremacy. To pick flaws is always possible with any work of art; but to admire the greatness of a masterpiece and to be delighted by its perfections is always a more profitable attitude of mind. W. F. C.

**Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.** Translated by Nellis Barnes Foster. Part 8. Gout by Prof. Dr. H. Strauss.

The present monograph attempts to give a review of the present state of our knowledge on the metabolism in gout. The formation and excretion of uric acid is the center around which Strauss builds up the biochemical structure of gout. Recent researches have shed a great deal of light on the formation and excretion of uric acid; its origin from the purin-bases, its formation in the endo—and exogenous part are clearly discussed. The recent work of Brugsch and Schlittenheln demonstrating the retardation in the excretion of uric acid of exogenous origin and the value of this phenomenon for diagnostic purposes is accepted.

The lecture of the book while complete as to the data, does not satisfy our desire for a clear exposé. This, however, is more due to the unsatisfactory state of our knowledge in regard to the place of uric acid in the pathology of gout than to Prof. Strauss.

Several errors may be corrected in a second edition. The opinion that caffeine is transformed into uric acid, advocated by Strauss, cannot be accepted in view of the work of Bondsynski. E. S.

**The Cure of Rupture by Paraffin Injections.** By Chas. C. Miller, M. D. Publishers, Oak Printing Company, Chicago.

In this book of 80 small pages, the author endeavors to justify a procedure which has met with considerable censure from many surgeons who have had occasion to note and rectify the mishaps of the injection treatment of hernia. No reference is made to diagnosis and the anatomical study of hernia is deemed totally superfluous. Those who are interested in the methods of many advertising "specialists" will find here a clear description of the mode of using paraffin. Before treating a hernia, the author advises "making numerous injections into the carcass of a small animal—cat, dog, rabbit or chicken." Exceedingly brief histories are given of ten patients treated by injections of paraffin. In most all of these cases the last examination was made within two or two and a half months after the injections!

In conclusion the author states that he has "felt no hesitancy in injecting cases which promised a fair degree of success, realizing full well that untoward symptoms of a local character may be overcome by free dissection, removal of the paraffin and restoration of the inguinal canal by the usual surgical means." D. T.

**Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation.** By E. von Neusser. Translated by Andrew MacFarloue. Part 3. Angina pectoris.

The present volume, devoted to the discussion of symptomatology, diagnosis and treatment of angina pectoris, presents one of the most complicated and discussed chapters of internal medicine in a very lucid manner. Like all the writings of the celebrated diagnostician, it is characterized by a clear exposé of the anatomical, pathological and physiological points involved in the pathogenesis of angina pectoris. It is an intellectual pleasure to read the discussion of the cases published to illustrate his views; free from all schematic and stereotyped diagnostic formulas, he develops his views based on the application of physiological data to the pathological conditions. Thorough knowledge of the literature published by the writers of the last century makes this treatise an exceedingly valuable one.

In the discussion of the theory of angina pectoris we miss a mention of Head's and Mackenzie's views, which seem to be now generally accepted. E. S.

**Surgical Diagnosis.** By Edward Martin. Published by Lea & Febiger.

A book on Surgical Diagnosis must owe its merit largely to its illustrations and the arrangement of material. This well-known surgeon and experienced teacher has given much attention to these two points. The illustrations are abundant; the greater part are original and present a varied range of material from the author's service. The work on fractures is comprehensively pictured by many tracings from radiographs, and the accompanying legends give the special features in the case history and a description of the lesion. Surface markings, that portion of anatomy which is so frequently neglected, receive due attention and careful directions are given for examining, from a surgical standpoint, the various portions of the body. There is a well written chapter on Laboratory Diagnosis by Warfield T. Longcope, and a special section on the Application of X rays by H. K. Pancoast. The great abbreviation which has been necessary in order to embrace the subject-matter in this limited number of pages has led to a series of bald statements harnessed together with no attempt at literary style. As a consequence, though the book is made up of carefully collated facts, it is hard and uninteresting reading. This feature is almost unavoidable in a multum in parvo volume and does not detract from the book's value as a student's guide. R. R.

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**Diseases of the Ear. A Text-Book for Practitioners and Students of Medicine.** By Edward Bradford Dench, Ph. B., M. D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College, etc., etc. With Nineteen Plates and One Hundred and Fifty-eight Illustrations in the Text. Fourth edition, revised and enlarged. D. Appleton & Company.

This text book, now in its fourth edition and from a man holding such a prominent position in the realm of Otology as Dench, should be a model work and an example in American literature. Careful reading does not permit me to consider it as such. It is written to sell and certainly will sell, but should not go unchallenged. Many of the illustrations are mediocre, badly drawn and badly reproduced. Appleton should think more of the bookmaker's art and less of commercialism. It is time for supposedly up-to-date text-books to contain original drawings and cuts, enough of reproductions that would grace an historical museum.

The text is very readable, Dench being a good teacher. According to the preface, the chapter on "Suppuration of the Labyrinth" has been entirely rewritten with the latest functional test included. Refer to the index and you will notice that the word nystagmus is absent, also Barany. In the entire chapter devoted to the Labyrinth, no reference is made to the nystagmus in labyrinthine involvement and none to the latest functional testing of the inner ear. To my mind, too much stress is laid upon the so-called labyrinthine nystagmus, still one expects at least a reference to same in a text-book devoted to Otology and published as late as 1909.

In criticizing this book, my remarks might be taken in a somewhat general way as referring to many of our American productions. The authors must work a bit harder, have more original drawings, copy less from other text-books and insist upon the publisher spending the necessary money to insure these points. W. S. F.

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**Ticks: A Monograph of the Ixodoidea,** by George H. F. Nuttall, M. A., M. D., Ph. D., Sc. D., F. R. S., Fellow of Magdalene College, Quick Professor in the University of Cambridge, Cecil Warburton, M. A., F. Z. S., F. L. S., Christ's College, Zoologist to the Royal Agricultural Society, W. F. Cooper, B. A., F. Z. S., F. L. S., and L. E. Robinson, A. R. C. Sc. (Lond.)

This work, which is appearing in fasciculi, will be of much importance to the student of tropical medicine, as the effects of the bites of ticks and the relation of these animals to the spread of disease are adequately discussed as well as the questions of general biology, structure and classification; and a list is given of all the literature on the subject. No existing work in any language attempts to deal comprehensively with the subject, so the voluminous literature is widely scattered and in several languages, much of it inaccessible to the ordinary student. Each fasciculus is to be complete in itself. The present review deals with fasciculus No. 1 which contains first the family characters, synonomy and literature of the Argasidae and the features which distinguish them from the other Ixodoidea. Next comes a discussion of the generic characters, synonomy, iconography and literature of all the described forms of the two Argasid genera **Argas** and **Ornithodoros** with keys for determining the various species. Finally is given in detail what is known of the general biology and medical significance of this family, including life histories, effects and treatment of bites, economic and pathologic importance, means of destroying them, etc. The work is illustrated with three plates and 114 figures in the text, most of them of a very high order of excellence. The complete synonymical, iconographical and bibliographical lists are invaluable, and the arrangement is such that any one with ordinary systematic training can identify from it any tick described in the work. The study of arthropod-carried diseases is only half done when we observe the process in the patient, and such works as the one under review which aid in determining and investigating the disseminators of the casual agents of the diseases are indispensable to the student of scientific medicine.

C. W.

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**Diagnostics of Internal Medicine.** By G. R. Butler, M. D. Publisher, D. Appleton & Co.

Successive editions of a medical work seldom call for extended review unless very radical changes have been made in the subject-matter. It suffices ordinarily to note changes and to suggest future improvement.

The present volume is the third edition of this well-known work and the fact that the author finds it necessary to make a revision about every two years is some measure of the success of the book. The field covered is an extensive one, including physical diagnosis proper, clinical pathological methods, and diagnosis direct and differential of the various diseases that are included within the field of internal medicine. The first two are embraced in Part I of the work while the latter makes up Part II. The two parts are intended to be complementary. It is doubtful if Part II is a very useful feature of the book. A comprehensive and useful discussion of the diagnosis of medical diseases requires much more space than can be allotted to it in a work of this kind, and it would seem better to make it the subject-matter of a separate volume. For example, the Diagnosis of Diseases of the Tropics is covered in five pages with the result that scarcely more knowledge is imparted concerning these affections than can be obtained from any good medical dictionary.

We notice in the preface that the section on kryoscopy has been omitted from the present edition. A new section on Life Insurance Examination has been prepared, but in the judgment of the reviewer it were better omitted. It is practically a duplicate

of instructions issued by insurance companies to their examiners and can be of no use to the student.

The chapter on X-ray diagnosis has been curtailed. In its present form, it seems much too optimistic and must certainly lead to a false conception of the ease and certainty of X-ray diagnosis in certain obscure troubles. To quote, under the heading "Stomach," we find the following paragraph: "The size, shape and position may be determined, and the degree of motility, together with the character of the peristaltic waves. Displacements are readily seen. The presence of atony, hypermotility, obstruction at the pylorus, infiltration or tumor of the stomach wall, and ulcer may be learned with accuracy." While these statements may possibly be true in a certain sense, the recognition of some of the conditions mentioned is attended with very decided difficulties and uncertainties.

The Wasserman hemolytic test for syphilis is explained and the modified Noguchi reaction described. In view of the inclusion of these facts in the book, it would seem proper to make mention of the newer test devised for the cerebrospinal fluid. The discussion of lumbar puncture and the examination of the fluid seems very meagre.

The sections on examination of the blood, sputum, stomach content, and feces while necessarily brief are yet good. When the subject of the urine is reached one is surprised to find the statement that the technic or urinalysis is omitted because of the wealth of special treatises on this subject. Why the same reasoning should not apply to the blood, sputum, etc., we fail to see.

The book as a whole makes a favorable impression. The student will get the most use out of the first part where the subject-matter of physical diagnosis is well presented. Illustrations are numerous and good. The frequent use of the nude female figure initiated in the first edition is continued and while undoubtedly of value from the commercial standpoint may find objections in the minds of some. H. W. A.

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**Further Advances In Physiology.** Edited by Leonard Hall, M. B., F. R. S., pp. 440. London, Edward Arnold, and New York, Longmans, Green & Co. March 7, 1909.

In this praiseworthy book the results of recent work of physiologists are set forth in a digestible form so that the busy clinician may without much effort supplement his knowledge of physiology and bring it up to date. The book contains many advances in the subject, and the clinician who reads it with a mind alert for applications will find it most suggestive for progress in his own work, while for the rigid-minded physician it will diminish the tendency of wallowing in the slough of empiricism.

The nine chapters were written each by a different author and accepted by the editor without changes. Those that are especially good are the chapters on the cell, the cardiac cycle, the vascular system, and the functions of the cerebrum. In some of the chapters the authors were unmindful of the time of the reader in that they omitted summaries and conclusions and made it tedious to sift out the essentials. In reading it one must wade through many improved theories, histories of theories, wordy paragraphs and references for facts in order to obtain the isolated facts that are scattered through. The unessentials might well be printed in a different type or consigned to an asterisk system.

Chapter 1. Treats of cell biologically and gives its chemical composition in a simple and easily comprehended manner. A cell is not a fixed chemical compound, but its constituents are bound together by all degrees of affinity from chemical combination to absorption. Example of latter is oxyhemoglobin. The nature of affinity of cell for food, drugs, C $O_2$ and O and the processes of metabolism and other cell activities are described and also the action of balanced solutions.

Chapter 2. Contains a good description of bundle of His and of movements of heart. Artificial stimulus of a rapid rate causes a cardiac beat of a slower rate. There is no summation of stimuli in the heart and it can not be tetanized (bearing on cardiac massage). Heart has a tonicity and in life is never fully relaxed.

Chapter 3. Events of cardiac cycle and interpretations of tracings from arteries, veins, muscles (externally and intra-oesophageal), and ventricles are well treated. "C" wave of nervous pulse is caused by combination of arterial pulse and bulging of tricuspid valve in relative proportions in different cases. "V" wave is caused by both rush of blood filling auricle and end of ventricular systole and the raising of the "A V" ring at beginning of ventricular diastole.

Chapter 4. Tells of Carrel's work in vessel and organ transplantation. Gives blood pressure in many vessels and under many conditions. Arteries exposed to air and manipulated contract. Freezing prevents this Hence bleeding after this anesthesia. Paradoxical pulse (i. e. fall of blood pressure on deep inspiration) is normal. Closing vessels of one lung usually causes no decrease in arterial pressure. Mental work and painful emotions send blood not to brain but to abdomen. Pleasurable ideas send it to periphery. Sedentary brain workers have stagnation of blood in abdomen and hence dyspepsia. Urine is not secreted by mechanical filtering, but the fluid part pervades the tubules by absorption and surface tension and concentrate waste products and extrude them in vacuoles into the lumen.

Chapter 5. Lung movements are well described and differently than in the textbooks. Apex moves very little and hardly at all in shallow breathing, and is therefore the seat of tuberculosis.

Chapter 6. Contains a wordy popular discussion on exercise and its effect on bodily functions but not much that is new.

Chapter 7. Brings physiology of nerves up to date with very little advance. Nerve fibres in cord do not regenerate, as neurolemma cells are necessary. Peripheral regeneration is almost surely a continuation of centra: fibers and these may branch.

Chapter 8. Is intensely interesting. Cortex may be divided according to some of its functions histologically by the relative development and time of appearance of the pyramidal cell layer. Thickness of this layer increases with the height in the scale of evolution, is great in the prefrontal region, is an index of degree of intelligence, and is shrunken in dementia. Granular layer (next internally) is for reception or immediate transformation of impressions from lower sensory neuroses and other parts of cortex. Polygonal cell layer governs instinctive actions. Region of broca is discarded and new areas of aphasia are given. Dual personalities, one-ideaed cranks, and certain dementias are explained.

Chapter 9. This is a long discussion of adaptation to light and theories of color vision, but is merely of scientific interest to the specialist. Conclusions are unsatisfactory. Eight pages of theories of color vision of the ancient Greeks seems out of place considering the title of the book. S. B.

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## BOOKS RECEIVED.

**A Text-Book of Operative Surgery.** Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By

Warren Stone Bickham, Phar. M., M. D., Visiting Surgeon to Charity and Touro Hospitals, New Orleans. Third revised edition. Octavo of 1206 pages, with 854 illustrations, entirely original. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $6.50 net; half morocco, $8.00 net.

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**A Manual of Chemistry.** A Guide to Lectures and Laboratory Work for beginners in Chemistry. A text-book specially adapted for students of medicine, pharmacy and dentistry. By W. Simon, Ph. D., M. D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, and in the Baltimore College of Dental Surgery; Emeritus Professor in the Maryland College of Pharmacy; and Daniel Base, Ph. D., Professor of Chemistry in the Maryland College of Pharmacy. New (9th) edition, enlarged and thoroughly revised. Octavo, 716 pages, with 78 engravings and 9 colored plates, illustrating 64 of the most important chemical tests. Cloth, $3.00 net. Lea & Febiger, Philadelphia and New York, 1909.

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**A Text-Book of Protozoölogy.** By Gary N. Calkins, Ph. D., Professor of Protozoölogy in Columbia University, New York. Octavo, 349 pages, with 125 engravings and 4 colored plates. Cloth, $3.25 net. Lea & Febiger, Philadelphia and New York, 1909.

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**The Principles of Bacteriology.** A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, $2.75 net. Lea & Febiger, Philadelphia and New York, 1909.

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**The Practitioners' Visiting List for 1910.** An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Price by mail, postpaid, to any address, $1.25. Thumb-letter index, 25 cents extra. Descriptive circular showing the several styles sent on request. Lea & Febiger, Publishers, Philadelphia and New York.

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**The Popes and Science.** The Story of the Papal Relations to Science from the Middle Ages down to the Nineteenth Century. By James J. Walsh, M. D., Ph. D., LL. D. 400 pp. Price, $2.00 net; postage, 15 cents extra. Fordham University Press, N. Y. City Office, 110 West 74th Street.

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**A Treatise on the Principles and Practise of Medicine.** By Arthur R. Edwards, M. D., Professor of the Principles and Practise of Medicine and Clinical Medicine in the Northwestern University Medical School, Chicago. New (second) edition, thoroughly revised. Octavo, 1246 pages, with 100 engravings and 21 full-page plates in colors and monochrome. Cloth, $5.50 net; leather, $6.50 net. Lea & Febiger, Philadelphia and New York, 1909.

**A Text-book of Practical Therapeutics.** With especial reference to the application of remedial measures to disease and their employment upon a rational basis. By Hobart Amory Hare, M. D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. Thirteenth edition, thoroughly revised. Octavo, 951 pages, with 122 engravings, and 4 full-page colored plates. Cloth, $4.00 net; leather, $5.00 net; half morocco, $5.50 net. Lea & Febiger, Philadelphia and New York, 1909.

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**A Text-Book of Surgical Diagnosis.** For Students and Practitioners. By Edward Martin, M. D., Professor of Clinical Surgery, University of Pennsylvania, Philadelphia. Very handsome octavo of 764 pages, with 445 engravings, largely original, and 18 full-page plates. Cloth, $5.50 net; Lea & Febiger, Philadelphia and New York.

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**Organic and Functional Nervous Diseases.** A Text-Book of Neurology. By M. Allen Starr, M. D., Ph. D., LL. D., Sc. D., Professor of Neurology, College of Physicians and Surgeons, New York; ex-President of the New York Neurological Society. Third edition, thoroughly revised. Octavo, 904 pages, with 300 engravings and 29 plates in colors or monochrome. Cloth, $6.00 net; leather, $7.00 net. Lea & Febiger, Philadelphia and New York, 1909.

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**A Text-Book on the Principles and Practise of Surgery.** By George Emerson Brewer, M. D., Professor of Clinical Surgery in the College of Physicians and Surgeons, New York. Octavo, 908 pages, 415 engravings and 14 full-page plates. Cloth, $5.00 net; leather, $6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

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**A Practical Treatise on Diseases of the Skin.** For the use of students and practitioners. By J. Nevins Hyde, A. M., M. D., Professor of Dermatology and Veneral Diseases in the University of Chicago, Medical Department (Rush Medical College). New (8th) edition, thoroughly revised and much enlarged. In one very handsome octavo volume of about 1137 pages, with 223 engravings and 58 full-page plates, in colors and monochrome. Cloth, $5.00 net; leather, $6.00 net. Lea & Febiger, Philadelphia and New York, 1909.

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### New Members.

**Sweet, Earl B.,** Los Angeles.
**Ragland, D. C.,** Los Angeles.
**Chaffin, Rafe,** Los Angeles.
**Beach, E. C.,** Los Angeles.
**Adams, C. B.,** Los Angeles.
**Morris, R. H.,** San Francisco.
**McKenney, A. C.,** San Francisco.

### Reinstated.

**Seeber, C. W.,** Los Angeles.
**Dennis, Mary E.,** Los Angeles.
**Hunt, D. W.,** Glendale.

### Deaths.

**Watt, Geo.,** Willows, Cal.
**Barret, W. M.,** San Mateo, Cal.
**Davisson, J. H.,** Los Angeles, Cal.
Ives F. B., Long Beach, Cal.
Clarke, Geo. M., Los Angeles, Cal.
Thayer, O. V., San Diego, Cal.
Caldwell, J. J., Fort Bragg, Cal.
Milliken, J. W., Mendocino, Cal.
Schmitt, G. H., Los Angeles, Cal.

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## EDITORIAL NOTES.

How interesting many things are made by the mere passage of time! How pleasant it is, sometimes, to go back into the printed word of the past and see how, in the fulfillment of time, the idle boast of one year becomes the jest of another! The following paragraph appeared under the title "Editorial" on the front page of the *Pacific Medical Journal*, April, 1907:

LIBEL SUIT.

> "A $75,000 suit. The College of Physicians and Surgeons of San Francisco has entered suit against Dr. Dudley Tait, erstwhile President of the Board of Medical Examiners, and Dr. Philip Mills Jones, Editor of THE CALIFORNIA STATE JOURNAL OF MEDICINE, for slander and libel. These gentlemen will be afforded every opportunity to prove the assertions they have made regarding the college or take the consequences."

This libel-suit-joke was supposed to be based upon an article published in the STATE JOURNAL for December, 1906, in which article (furnished by the Board of Medical Examiners) several cases were given where students had been fraudulently graduated from the College of P. & S., S. F.; Dr. Winslow Anderson's college. The promise made in the paragraph above quoted was most sadly broken; the attorney for Dr. Tait and Dr. Jones had instructions to do everything in his power to bring the suit to trial. But the plaintiffs were never quite ready to get down to business. The original complaint was slashed and cut, upon demurrer, so that only its shadow remained. The frauds had been committed and the college did not want its records brought into court. After dragging along, being taken off the calendar several times and nearly dismissed by the judge, the plaintiff's attorneys asked permission to withdraw the suit and this was granted, some two months ago. And that was the dismal end of the grandiloquent bluff above quoted! What a shame! It would have been such a pleasure to demonstrate from the college's own records, the cases of fraud; but, unfortunately, the college did not seem so keen to press the suit, when the matter got into court, as it did when Dr. Winslow Anderson and Dr. D. A. Hodghead were talking about what they would do, in April, 1907. The college had fraudulently graduated students and these eminent gentlemen knew it. If they wish to bring another suit, here is a good chance to go to it.

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The Fortieth Annual Meeting of the Medical Society of the State of California will be held at Sacramento, April 19th, 20th and 21st, 1910, under the administration of Dr. James H. Parkinson, of Sacramento, president. It should prove to be a notable meeting in many ways, not the least of which will be the very important business to come before the House of Delegates, with reference to the fixing upon some permanent plan for Physicians' Defense; either the adoption or rejection of the tentative plan now in force and originated by the Council, or the adoption of some other plan. The work as undertaken by the Council is based upon a very simple scheme and is devoid of any complicated details; it seems to have met with such general approval and endorsement from County Medical Societies and from individual members that there is little doubt that the House of Delegates will alter it to any marked extent. The Program Committee is hard at work upon the program and the members of the Committee are devoting much time to the task—no light one, by the way. In the next issue of the JOURNAL we shall give a skeletal program together with some matter from the Committee of Arrangements. As yet no definite report has come from the Committee but it is understood that the sessions of the Society will be held in the Capitol building and the headquarters hotel will be the New Sacramento. Members desiring to present papers at the Sacramento meeting will please notify the Chairman of the Program Committee at once; address, Dr. H. R. Oliver, Butler Building, San Francisco, California. *Do not wait till the last moment or the program will be complete and there will be no room for your communication.*

ANNUAL MEETING.

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The San Francisco County Medical Society, and its attorney, Mr. Walter Kaufman, have indeed won a signal victory for decency and honesty in medicine by the conviction of one Dr. John J. Arberry of the crime of attempting to obtain money by false pretense, which verdict was secured after months of hard work, on January

DR. ARBERRY CONVICTED.

13th, 1909. The case itself was the usual sort of quack grafting. A country boy came to town, went to "Dr. Taylor & Co." for a slight pain in the back, was promptly stung for all he had—$10.00—and the boy's aunt and guardian was bled for $200.00 more. It came so easy that Arberry, who runs "Dr. Taylor & Co." tried to get another couple of hundred dollars by telling the aunt that the boy had valvular disease of the heart and would die if he did not cure him—for $200.00 more! But he overstepped himself and that same day saw his arrest. He made a hard fight (it is said that the quacks have subscribed no less than $25,000.00 to protect him), retaining Carrol Cook, to whom the Assistant District Attorney referred as "the fox of the bar," as his counsel. Through the able work of the attorney, evidence was admitted from four distinguished members of the Society who had examined the boy, to the effect that they could and did swear as a matter of fact (and not a mere opinion) that the boy did not have and never had had either an abscess of the prostate or valvular disease of the heart. It is the first case of the kind in which a verdict of this sort has been secured in the United States, and it marks an epoch in the war of honesty and legitimate medical science against those dishonest and disreputable members of the profession they disgrace who follow the practices of the advertising quack. It was learned from the defendant, under cross-examination, that "Dr. Taylor & Co." is a corporation, the principal stockholder being one O. C. Joslen, formerly licensed to practice in this State, but who was convicted in the U. S. Court in 1905 and his license revoked; his crime was sending a letter, offering to commit an abortion, through the mail. Six of this gentry were convicted at the same time, but as they were only fined $500.00 apiece, it did not do much good. If we can get some more of these chaps on the "false pretense" charge, which is a felony and State's prison offense, it will probably discourage the thriving business of quackery in this State. The thanks of the Society are certainly due the four physicians who gave so much of their time to following the case and giving their evidence: Dr. John C. Spencer, Dr. E. G. McConnell, Dr. A. J. Lartigau and Dr. Emile Schmoll.

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**SANITARY NEEDS.**

Of recent years a new field has been opened for properly equipped physicians which has not received the attention from our medical schools that it deserves. Dr. William F. Snow, a thoroughly trained sanitarian and the Secretary of the State Board of Health, says that there are few men available who possess the necessary education in preventive medicine to make them efficient officers of the public health. At this time, when so few opportunities are open to medical graduates, it would seem that universities should fill this want by giving an adequate course of instruction in Sanitary Science.

That the scope for such work will soon be increased is shown by Dr. Snow's statement. He believes that the State should be divided into several administrative sections, such as the Sacramento Valley, the San Joaquin Valley, Eureka, San Francisco and Los Angeles divisions. In each the State Board of Health should place a medical officer, who would give his entire time to the work, and a sub-station of the Hygienic Laboratory properly equipped and provided with an assistant. Food and sanitary inspectors would be under the immediate direction of the division medical officer. The duties of such officers would be largely advisory to county and local health boards; they would be continuous employees of the State with positions secure from political influence. Furthermore Dr. Snow urges all incorporated towns of 10,000 and over to appoint a full time medical officer of health and to give him the essential laboratory equipment for the ordinary work of milk and communicable disease control. Unincorporated towns and thickly settled rural districts will be encouraged to unite in forming union districts for the provision of a health officer and a laboratory.

The State has set the example for good and thorough work and our medical schools will be forced to recognize the growing demand for well trained sanitarians.

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**PROSECUTION OF QUACKS.**

This whole question of the prosecution of illegal practitioners and of those who are licensed but are nevertheless following dishonest quackery, is a very large and a very important one. For years it has been neglected; indeed, it never was done in anything but a casual and sporadic manner, and now that one comes to look into the Augean stable, it is seen at a glance that the work of cleaning up is going to be no child's play. The Board of Examiners has retained an attorney—Mr. Kaufman, who prosecuted so successfully the Arberry case—and a plan for a general move for the defense of the law is being formulated. It is a tremendous undertaking, however, to see that this work is properly launched all over the State; and especially is this the case when we remember that the Board is practically without funds to begin the work. But it will be begun and at no distant date; the object is to begin it right and let it develop slowly and surely; funds will be forthcoming when the work is under way. Because so very little has been done in past years, and as naturally follows therefore, because there are so many violations of the law in various parts of the State, many of our members and physicians generally have become impatient—and naturally. But we should remain as patient as possible for awhile yet and see whether the plan the Board of Examiners so recently decided to formulate will not work out right in the end; it is often better to "make haste slowly" than to rush things and have subsequent trouble that might have been avoided.

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**ADVANCES IN THORACIC SURGERY.**

Surgery, of necessity, courts simplicity. Elaborate instruments, cumbersome apparatus and involved methods of procedure are out of place in the modern operating room. Our needs are few; pretentious antiseptic methods have given way to simple asepsis. We scoff at complicated apparatus, such as

Bardenheuer uses in his treatment of fractures; even the status of the electric burr is doubtful. We are learning principles and we seek to consummate them in the easiest way. Treves would have us beware of the surgeon of many tools.

As surgical knowledge has advanced its practitioners have attacked one portion of the body after another and in each new field the subject has been worked out from the complex to the simple. The chest cavity has been the last to seriously engage our attention and its surgery is advancing most rapidly. The use of differential pressure is certainly a necessity in many cases, if not in all, and the solution of this interesting problem has called forth many mechanical devices, of which the positive pressure apparatus of Brauer and the negative pressure cabinet of Sauerbruch may be considered as the types. In the last number of the JOURNAL Bunnell described an ingenious contrivance for positive pressure. The combination of positive and negative pressure in the apparatus of Willy Meyer marks the acme in expensive, elaborate and cumbersome construction.

In view of these facts a recent contribution by Meltzer and Auer is of the greatest interest. These authors have found that respiration can be carried on without any normal or artificial respiratory movements whatever. This is done by inflating the lungs with air under fifteen or twenty millimeters' pressure by means of a foot bellows attached to a tube about two-thirds the size of an anaesthetized dog's trachea. The tube is pushed through a tracheotomy wound down to the tracheal bifurcation. The apparatus allows perfect pulmonary ventilation; respiratory movements continue if one side of the chest only is opened. The entire front of the thorax may be cut away by this method the lungs remaining unmoved. If the air is first passed through an ether bottle the animal may be kept in excellent condition for four hours or longer.

It is interesting to note that Carrel has been using the method with good results in operations on the thoracic aorta. It would seem that this work of Meltzer and Auer is the most important contribution on the subject which has yet appeared for it involves a new principle.

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**TUBERCULOSIS ORDINANCE.**

Probably no more significant legislation has been enacted in San Francisco during the past year than the ordinance relative to the prevention of the spread of tuberculosis, which recently became a law. It will be remembered that the Tuberculosis Committee of the Medical Society of the State of California introduced a bill into the State Legislature last winter "defining the powers and duties of physicians, local health officers, and boards of health in the matter of the protection of the people of the State of California, from the disease known as tuberculosis, providing for requisitions and reports, and making appropriation therefor." This bill passed both houses of the Legislature and was vetoed by the Governor for reasons which he endeavored to explain in a veto message. The comments of the committee on this strange message were set forth in its Annual Report (See JOURNAL, Vol. 7, page 162.) The recommendation of the committee, namely, that local boards of health endeavor to have enacted ordinances relative to the prevention of the spread of tuberculosis, has been fulfilled in San Francisco through the enactment of the above-named ordinance. This ordinance is practically a reproduction of the state bill, with the addition of a section giving the Health Officer discretionary power in the forcible removal of a tuberculous individual who through carelessness and indifference persists in habits of living, which directly endangered others. It would seem impossible to the casual reader that such cases exist; yet a tour of inspection any day with one of the nurses of the San Francisco Tuberculosis Clinic, will convince the investigator how necessary is such a provision. This ordinance places San Francisco at once among the most advanced American cities in point of legislative enactment for the control of tuberculosis. With an active tuberculosis association and a board of health energetic in the accomplishment of measures for the relief and control of tuberculosis, we may confidently look forward to an early amelioration of those conditions which have given San Francisco a mortality from this disease, which has been a serious reflection on our civilization. It is sincerely to be hoped that the hearty cooperation of the medical profession of the city will not be lacking in the enforcement of this ordinance.

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**OUTRAGEOUS TREATMENT.**

In two towns in our State most iniquitous action has been taken by the Town Trustees. At St. Helena and at Salinas ordinances have been passed requiring a license of $12.00 per year to practice medicine. In St. Helena several of the local physicians refused to pay the license and were arrested. Their refusal was based upon the injustice of the imposition and the case will be fought out. It seems likely that the ordinance will be defeated, but it is also understood that another and similar ordinance will be passed if the present one should be found faulty. What action has been taken at Salinas we have not heard, but it is to be hoped that the resident physicians of that community will most emphatically record their protest. To tax the one profession that gives so liberally and so ungrudgingly of its time, its brains and even of its scanty dollars to charity and charitable works, is indeed an outrage! The medical profession gives more in time and work and money or its equivalent than all the charitable organizations in the country combined. Physicians in attendance upon our county and city hospitals and institutions of a similar sort, are seldom, if ever, paid for their services, though the communities benefit from the unselfish work of the doctor. There are doubtless a goodly number of citizens in both these communities who have received their professional attention free at the hands of the local physicians, these same medical men knowing full well that they would never be paid for their work. It is indeed an outrage and one that should come to

the attention of the State Society at the coming meeting in order that we may see if some means may not be devised for aiding the physicians of St. Helena and of Salinas in their fight against unjust imposition.

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**SCIENTIFIC WORK ON PLAGUE.**

Since the establishment of the Plague Laboratory in San Francisco by the United States Public Health and Marine Hospital Service an enormous number of rodents have been examined and other routine duties performed. The officers attached to the Laboratory have also found time for original investigations which reflect great credit on themselves and their corps. This work is of much practical importance, and it should be a source of pride to the physicians of the State that a pestilence, which threatened to annihilate its citizens, should have been harnessed and turned to such excellent service. The JOURNAL has thought it would be of interest to give a resumé of the more important of these reports.

Wherry (Journal of Infectious Diseases, Vol. 5, No. 5, Dec. 18, 1908) exhaustively discusses the subject of plague among the ground squirrels of California. In this valuable paper we have the record of the first cases of natural plague infection among ground squirrels in America and a forecast of the danger that confronts the State and the Nation if prompt and vigorous measures are not taken to suppress the disease among these rodents.

McCoy and Wherry (Journal of Infectious Diseases, Vol. 6, No. 5, Nov. 26, 1909) record a case of plague that was traceable to ground squirrel infection with almost the certainty of a laboratory experiment. The diagnosis appears to have been established beyond the slightest doubt by very careful bacteriological examinations. Clinically the case was one of the rare and unusual type known as subacute plague. It is probably the first of this type to be reported in America.

McCoy (Journal of Infectious Diseases, Vol. 6, No. 5, Nov. 20, 1909) reports upon the bacteriology and pathology of the first extensive series of cases of plague to be recorded in the ground squirrel. The paper leads one to the conclusion that the majority of cases of the disease in these rodents are of the subacute or chronic type. With our present knowledge of the mode of transmission of plague from rodent to man, there would seem to be but comparatively little danger of infection of human beings from these chronic cases of ground squirrel plague.

McCoy (Journal of Infectious Diseases, Vol. 6, No. 2, April 1st, 1909) conducted an extensive series of experiments to determine the virulence of old and of recent cultures of the bacillus pestis. They are particularly interesting to Californians, because they show that the cultures, isolated during our recent epidemic among human beings and epizootic among rodents, are highly virulent. Perhaps the most surprising feature of the report is the high degree of virulence retained by certain old cultures of the plague bacilli that have long been grown on artificial media.

In another paper (Journal of Infectious Diseases, Vol. 6, No. 3, June 12, 1909) McCoy establishes the very interesting fact that a large percentage of the rats in San Francisco are quite immune to plague infection. The writer believes that the immunity is a natural one and not acquired by a previous infection.

In another communication in the same journal McCoy reports some interesting experiments upon the susceptibility to plague infection of ground squirrels, gophers and field mice. It was found that the field mice were just about as susceptible as the ordinary house-rat. The writer, however, concludes that as man rarely comes in contact with this rodent, the danger of infection would be small. The gopher appears to have a high degree of immunity. It would appear that a solution of this problem of the immunity of gophers might have an important bearing on the possibility of producing a successful immunity among other rodents. The ground squirrel on the other hand was found to be very susceptible to the disease.

McCoy and Mitzmain (Public Health Reports, Vol. 24; No. 8, Feb. 19, 1909) present an extensive series of investigations upon the biting of man by fleas from rats and squirrels. The results of the work tend in a general way to confirm the observation of the Indian Plague Commission, and are directly at variance with the reports of other investigators. They find that all rat fleas will bite man under experimental conditions and they confirm the prevalent suspicion that fleas from ground squirrels are not averse to making a meal upon human blood when the opportunity offers.

In another paper these workers (Parasitology, London, Vol. 2, No. 3, Sept. 30, 1909) have investigated the regional distribution of fleas on rodents, a subject which on first sight would seem of purely theoretical interest. However, when we remember that one of the important pieces of evidence of flea transmission recorded by the British Indian Plague Commission was the regional distribution of buboes in rats, the subject assumes a different aspect. McCoy and Mitzmain have found that in infected rodents in California the head and neck is not the area of the body most frequented by rat fleas and this they state is quite in accordance with the localization of buboes in these animals in California.

In the Monthly Bulletin of the California State Board of Health, for November, 1909, there appears a short article by Dr. McCoy upon the diagnosis of plague in man.

McCoy reports (Journal of Medical Research, Vol. XXI, No. 2, September, 1909) upon the extensive series of tumors found in rats in San Francisco. In view of the importance of the study of tumors in rodents in connection with the cancer researches that are being conducted in this and in other countries, it would seem unfortunate that there is no provision in San Francisco for utilizing the magnificent material bearing upon this subject available at the Federal Plague Laboratory.

## ORIGINAL ARTICLES

# THE USES OF COLI AND STREPTOCOCCIC VACCINE IN URINARY DISEASES.*

By A. B. GROSSE, M. D., San Francisco.

In taking up the therapeutic value of coli and streptoccic vaccines in urinary disorders, I, in this brief paper, purposely refrain from alluding to the technical preparation of these vaccines, as well as to the large literature on the subject. Deeming it wise to briefly take up certain cases chosen from my private practise, and briefly summarizing deductions arrived at therefrom.

Case 1. Mr. E. D., eighty years of age, came to me two and a half years ago, had an enlarged prostate and infected bladder. A nelaton catheter of normal size enters the bladder easily. Residual urine, seven and a half ounces. Culture of urine discloses a pure coli infection. He is treated with injections of nitrate of silver, taught proper catheterization and given urinary antiseptics. For five months, patient very much improved; residual urine two ounces. Suddenly, marked relapse, urine loaded with pus, and of a foul odor. Patient strains to urinate every hour or even more frequently, and is constantly suffering from burning and pain. This is not relieved by the use of opium suppositories, hot sitz baths, etc. As patient refuses operation, an autogenous vaccine is prepared, one hundred million bacteria to one c. c. is injected. This is followed by a rise of temperature, pain in joints and general malaise (negative phase). Next day is much relieved, burning has diminished and pus is present in much smaller quantities. With doses of fifty million injected every five days, patient does exceedingly well for three months, and is now catheterizing once in twenty-four hours, residual urine is not in excess of one-half ounce, pus microscopically present, and bacteriuria persistent. After a period, symptoms again become aggravated. Upon the preparation and use of a new vaccine, pus, burning, and ardor urinae quickly vanish. Since then I have had vaccines made for him monthly. Until six months ago, in an excellent condition, when suddenly frequent urination of a very few drops of urine loaded with pus, without odor took place, no residual urine, but a general marked depression appeared. New vaccines of no avail, until, upon culture, a slow-growing streptococcus was found. A vaccine of this organism, thirty million to the c. c. injected gives an almost immediate relief, patient for the first time in weeks, is able to hold urine for over four hours. After four injections of streptococcic vaccine at four-day intervals, urine shows no more streptococci; the colon bacteriuria persists. If, for some unknown reason, the coli vaccine becomes innocuous, his symptoms reappear. He has a coli bacteriuria, microscopic pus, no residual urine, and is enjoying an active career.

Case 2. Dr. L. C., age 72, confined in hospital for three months with gastro-intestinal trouble, consults me for frequent painful urination, pus in urine, urethritis and thirteen ounces of residual urine. He has catheterized every six hours under every precaution up to date. This procedure is very painful on account of the urethritis. Culture of urine, as well as urethral discharge shows pure coli infection. Symptoms disappear very rapidly upon the use of vaccine, residual urine four ounces, no urethritis, no pain on catheterization, bacteriuria and microscopic pus still present.

Case 3. Mrs. P. Pelvic Pyelitis, acute pain in region of left kidney, pus in urine, high temperature, no results upon expectant treatment. Injection of vaccine followed by fall of temperature, and relief from symptoms. Next day, a large dose given erroneously which is followed by negative phase, a proper dosage over a period of several weeks. Patient recovers. The urine upon repeated cultures is found to be sterile.

Case 4. Mr. H. D. M., age 28, three years ago was treated by me for gonorrhea with full recovery in three weeks, repeated cultures of his very scanty urethral discharge showed streptococci in pure culture. Came in five months ago, with a temperature of one hundred and three, and an involvement of his right hip and knee joints, given an injection of streptococcic stock vaccine, which had been prepared from another urethral case. This was followed by an almost immediate amelioration of all symptoms. The culture showed pure streptococci. An autogenous vaccine was prepared and given to him at regular intervals. Upon repeated cultures taken recently no streptococci were demonstrated.

Case 5. Mr. H. S., was referred to me; had been suffering for a period of nine years with what was considered recurrent, acute and sub-acute articular rheumatism. It had been pointed out to him that this might be gonorrheal in nature. I examined him, found that he had a small amount of discharge glaring in character, resembling macroscopically the uncoagulated white of egg. This patient being an attorney, a very intelligent man, and an acute observer had noticed that this discharge increased when his joint symptoms exacerbated and also, that his throat, particularly his tonsils, became slightly painful at this particular period. Upon culture, the streptococcus in pure culture was demonstrated. He has been receiving vaccine during seven weeks, his tonsils have been removed, his joint symptoms have entirely disappeared, his general depression has vanished. Culture recently made showed an absence of streptococci.

Case 6. Mr. S., had purulent urethral discharge of very long standing, which failed to react with ordinary treatment, has been through the hands of quite a number of competent specialists. Upon culture streptococci were demonstrated. A few doses of this vaccine markedly decreased his discharge.

Case 7. Mr. E. H. K., has tabes and a paralytic bladder, urine upon culture shows pure culture of streptococcus, patient is greatly debilitated, has a severe cough and lung symptoms, for which he is examined by Dr. George H. Evans. His sputum also shows many streptococci. He is taught to catheterize properly and is given his vaccine at regular intervals. After six weeks urine upon repeated cultures is found to be sterile. After the first injection of vaccine, his cough and expectoration decreased, so that both of these conditions were cured by the vaccine.

### Conclusions.

1. That autogenous vaccines have a definite place as therapeutic agents in urinary diseases.
2. That vaccines must be prepared by a proficient bacteriologist, and that a well-equipped laboratory in conjunction with treatment rooms is essential.
3. That fresh vaccines are necessary, as vaccines deteriorate much more rapidly than is generally conceded.
4. That cases of enlarged prostate with an infected bladder, in which a fair sized nelaton catheter enters the bladder easily, should not be operated upon, until vaccines have been given a thorough trial.
5. That in infected and encapsulated organs or where chronic inflammatory infiltrates surround the infected areas, vaccines should be supplemented by the Bier treatment to enhance the blood supply.

* Read at the Annual Meeting of the American Urological Association at Atlantic City in June, '09, as part of the Symposium on Vaccines and Sera.

# CARCINOMA AND THE CERVICAL LYMPHATIC SYSTEM.*

By RAYMOND RUSS, M. D., San Francisco.

While the surgical treatment of malignant growths cannot be said to be ideal, it is at present the rational method of dealing with such neoplasms and will remain so until laboratory research has given us definite information as to their etiology and possibly their treatment by other means. Years of careful clinical work have thoroughly established two important principles in the handling of these conditions: First, the thorough removal with a good margin of sound tissue of the primary growth and, secondly, the extirpation of the whole lymph bearing area.

It is singular that the importance of this second principle has not been as generally realized in handling the lymphatic channels of the neck, secondary to carcinomatous conditions about the face and mouth, as in treating the corresponding area of drainage in cancer of the breast, for the chances of affecting a permanent cure are in the first instance much greater. Cancers about the face and mouth are of the squamous cell type and they form internal metastases very rarely, the cervical lymph glands serving as an effectual barrier against the further progress of the disease. This fact is particularly fortunate. Kuttner found in cancer of the tongue but four cases of distant metastases out of a large number examined from different clinics in Germany, and it is in this form that infection spreads most rapidly.

Nevertheless there seems to be an apathy on the part of many operators and the neck is not treated with that thoroughness which characterizes operations on the axilla. The true reasons are to be found in the mechanical difficulties which have deterred many and the fact that a small percentage of carcinoma of the head remain well without the extirpation of the cervical lymphatics. Not a few surgeons open the neck only when the glands are perceptibly enlarged and then remove those that can be easily palpated.

Glandular metastases are more to be feared in certain regions of primary growth than in others. Anton Meller, in a careful review of 327 cases of epithelial carcinoma of the head and neck, reports that the glands of the neck were involved in 90 per cent of all cancers of the lower lip, but that in cancer of other portions of the face the involvement was from 18 to 43 per cent. It may be added that glandular metastases are more to be feared in cancer of the tongue than in lip cancer. The tongue and lower lip are far richer in lymphatic drainage than other portions of the head. That the lymphatics may be removed thoroughly and systematically it will be necessary to know not only the positions of the gland groups but the areas which they drain. For the sake of simplicity the discussion will be limited to the lower lip, the tongue and the alae of the nose. The nodes which here concern us are the parotid, the submaxillary, the submental and the deep cervical groups and their relative positions are shown in the diagram (Fig. 1).

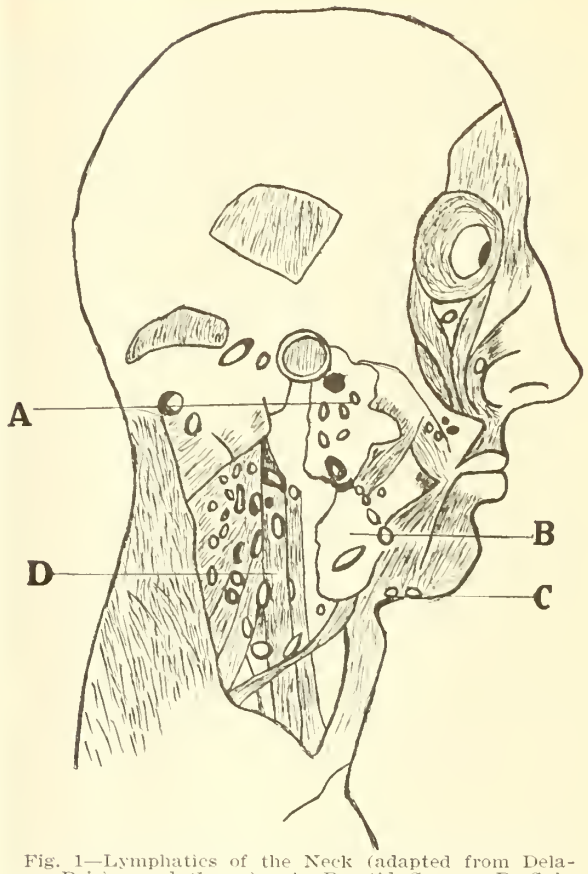


Fig. 1—Lymphatics of the Neck (adapted from Delamere, Poirier and Cuneo). A—Parotid Group. B—Submaxillary Group. C—Submental Group. D—Deep Cervical Chain.

In the parotid region there are one or two subcutaneous nodes between the parotid fascia and the salivary gland. The deep nodes are within the parotid salivary gland but fortunately they drain the region of the eye, the scalp, the root of the nose and the upper portion of the cheek. In carcinoma of the posterior portion of the tongue the removal of the lower zone of the parotid gland is essential.

The submaxillary group is made up of three to six nodes superficially embedded in the sheath of the submaxillary salivary gland. Sometimes they are even found in the gland substance. It is practically impossible to remove these nodes without extirpating the salivary gland itself and this should always be done when the group is attacked for malignancy. The submaxillary glands drain in turn into the deep cervical glands.

The submental group consists generally of two glands which lie upon the mylo-hyoid muscle between the anterior bellies of the two digastric muscles.

The deep cervical are numerous nodes which extend from the mastoid process to the root of the neck. They lie under and posterior to the sterno-cleido-mastoid muscle and are in intimate relationship with the internal jugular vein.

*The Lower Lip.* The lymphatic channels from the lower lip empty into the submental and submaxillary nodes and these will generally block infection for quite a period. Infection of a deep cervical gland sometimes takes place early but not frequently. The deep cervical chain is, however, often

* Read before the Annual Meeting of the Nevada State Medical Association, October 7, 1909.

involved in lip cancers which have gone some time before receiving surgical attention. One gland on the anterior surface of the internal jugular vein, where the omo-hyoid muscle crosses it, is especially prone to infection in these cases.

*The Tongue.* The lymphatic vessels from the forepart and tip of the tongue drain directly into the submental group. The middle of the dorsum of the tongue, its edge, lower surface and the entire floor of the mouth empty their lymph into the submaxillary nodes. The dorsum of the tongue, still further back, empties its lymph into the parotid group, while the lymph from the anterior portion rarely passes this way. The deep cervical glands are involved very early in this form of the disease and should always be removed. A cancer of the tongue, however small, may involve all groups so that the total extirpation of the lymphatic area upon the affected side is necessary. The tongue is made up of two halves which must be considered as anatomical entities, for each has its own nerves, its own blood vessels and lymphatics. Although these systems anastomose across the raphe, the clinical fact remains that cancer on one side does not readily cross the median line. Where the primary growth is situated on or very near the raphe it is essential to clean out the lymphatics on both sides of the neck; in other conditions it is only necessary to operate on one side, as Butlin in his large experience has shown. The tendency for cancer to spread toward the base of the tongue and not in the direction of its tip makes the removal of the lower zone of the parotid gland necessary in all cases, and when this is perceptibly involved, it is imperative also to carry the dissection into the posterior triangle of the neck.

*The Nose.* From the alae of the nose the lymphatics drain directly into the submaxillary and submental nodes. While there is little danger of metastases in superficial epitheliomata, especially in the aged, this danger becomes materially augmented when the malignant process reaches a deeper level. In this group of cases there seems to be a strong tendency to neglect operation upon the neck. Although the immediate danger is not as great as in carcinoma in other locations, it is sufficient to demand thorough removal of the submental and submaxillary nodes in each instance.

In the extirpation of lymphatics I prefer the transverse or collar incision, because it not only gives a large and free exposure of the node groups but allows also a careful inspection of both sides of the neck. This incision should parallel a neck fold and should extend from the posterior border of the sterno-cleido-mastoid transversely across the neck, just above the thyroid cartilage, to a corresponding point upon the opposite side. The external jugular veins are caught and tied securely above and below. The skin is rapidly dissected up until the flap can be easily raised over the symphysis of the jaw (where it is held by a strong traction suture in the hand of an assistant), thus freely exposing the submaxillary and submental areas. The incision can be carried further back if desired. This flap should be made

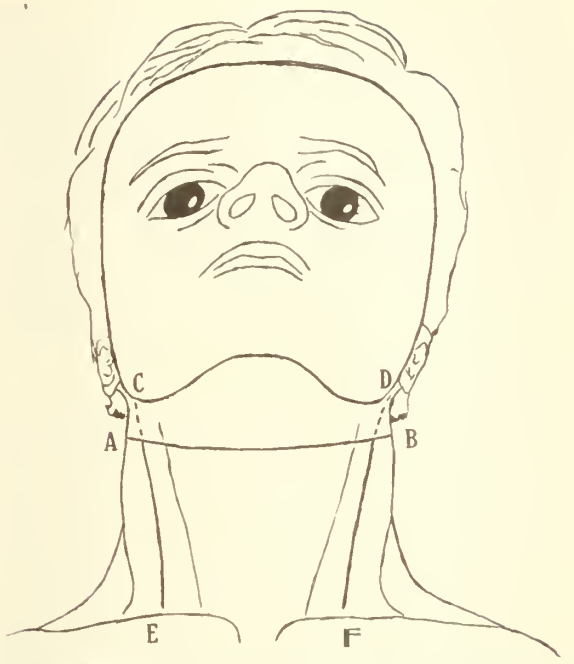


Fig. 2 Shows lines of incision employed in extirpation of the Lymphatics of the Neck. The transverse incision AB extends from the posterior border of the sterno-cleido-mastoid muscle transversely across the neck, just above the thyroid cartilage, to a corresponding point upon the opposite side. This incision may be carried further back if desired. In the removal of the deep cervical chain a longitudinal incision along the sterno-cleido-mastoid will be necessary, CE, DF. The dotted portion of the line of incision is made only when removal of the lower zone of the parotid gland is desired.

of skin alone as there is a superficial node lying in the subcutaneous fat over the submental region and another over the submaxillary gland. The submaxillary and submental nodes and their lymph channels should be removed *en bloc* together with the submaxillary gland. This gland is shelled out until the duct is reached; if this be tightly tied with silk the operator need have no fear of the formation of a salivary fistula. If one is dealing with a carcinoma of the lower lip the nodes and their channels, together with the submaxillary glands, should be thoroughly removed on both sides of the neck. Quite an area can be uncovered by dissecting down the skin to form a lower flap, stab drains of silkworm gut being placed at the lowest level. The incision is sutured by a subcuticular stitch of catgut or a through and through stitch of horse hair. The line of suture is protected with silver foil and a layer of fluffed gauze; a piece of gutta-percha tissue is next bound tightly over these by adhesive plaster to protect the wound surface from the dribbling of saliva which is so often an accompaniment of operations upon the lip and tongue. The skin of the neck, following the removal of the lymphatics, is frequently the seat of a hard lymph oedema which may persist for several weeks.

The transverse neck incision, if good coaptation be obtained in suturing, leaves a scar which after a short time is hardly perceptible, a fact to which Kocher early drew attention. This is no small gratification to the patient and, as the area exposed by the upper flap is satisfactory, there is no reason why it should not be more generally employed. The

longitudinal incision stretches and thickens but it will be necessary to use it also in those cases in which a block dissection of the deep cervical glands is performed. This should be done on one or both sides in every case in which the transverse incision has shown that the superficial glands are infected, and in all cases of cancer of the tongue. The incision runs along the middle portion of the sterno-cleido-mastoid and should extend from the transverse incision above to the clavicle below. In cancer of the tongue, in which it is necessary to remove the lower portion of the parotid gland, the longitudinal incision should be carried to a point a little below the mastoid process.

The skin flaps are rapidly dissected up and the sterno-cleido-mastoid muscle exposed freely. By liberating the posterior border of this muscle and then pulling it well forward, the deep cervical glands can be easily reached. These glands and lymphatic vessels should be thoroughly removed *en bloc* together with fat, connective tissue, portions of muscle if necessary and the internal jugular vein, if the glands are so adherent to it that they cannot be easily separated. Butlin, who first proposed and practiced this extensive operation, has even gone so far as to remove a portion of the external carotid artery. Blunt dissection should be avoided and great care should be taken to handle the lymphatic tissue as little as possible, thus avoiding the dissemination of cancer cells. It is surprising how much tissue can be sacrificed. All of the structures on one side of the neck, with the exception of the internal carotid artery, may be removed. Extirpation of one sterno-cleido-mastoid muscle causes little inconvenience and Crile has several times removed both. The sterno-hyoid, sterno-thyroid, digastric, omo-hyoid and platysma are of comparatively small importance. Bilateral excision of the vagi is fatal, but unilateral excision is attended by hoarseness and an irregularity of the pulse which persists for several days only. Excision of one phrenic is followed by paralysis of less than half the diaphragm. Excision of one hypoglossal affects the tongue considerably in speech, especially at first; in bilateral excision a fatal pneumonia usually ensues. While the internal jugular can be removed on one side without risk, as advocated by Cheyne, the operator must be assured of a collateral circulation before removing the second. It is true that in the neck many glands may be enlarged without showing cancerous involvement under the microscope. It is unwise, however, to assume that these inflammatory changes are innocent and that the glands would do no harm if allowed to remain in situ.

The greatest difficulty in these operations is the control of hemorrhage, which is oftentimes stubborn and persistent. If the table is on a sharp incline, the head well elevated, much has already been accomplished in eliminating the troublesome venous oozing. A table that is easily adjustable is desirable, for it may be necessary for the anaesthetist to change the patient's position to the horizontal at any time. Whitehead often prefers that the patient should be in a sitting posture in operating on the tongue. A large number of mosquito haemostats will generally suffice for the arterial hemorrhage. Crile has practiced, in a large number of cases, temporary closure of the common carotid by means of a special clamp prior to the block dissection. He now closes the common carotid until the dissection has been carried up to its bifurcation, when the clamp is transferred to the external carotid artery. Fortunately the sheath of the artery is very seldom involved in the cancerous process, as its ligation carries with it great danger of embolism. It is most important that the patient lose just as little blood as possible. Gaylord, Ehrlich, Bashford, Beebe and Ewing have all shown that animals who are bled have their resistance to the disease decreased. It would seem that the patient who loses the most blood has the least chance of making a permanent recovery.

I have considered it outside the confines of this paper to take up the discussion of the initial lesion and its treatment, but it may be said that operative removal of the glands and lymphatic channels of the neck should precede that of the primary growth. Boyd and Unwin have emphasized the fact that if the tongue be extirpated at one sitting and the lymphatics removed one or two weeks later, an increased flow of lymph will result and the disease be more widely disseminated. Whether both operations are performed at the same time will depend largely upon the extent of the involvement and the physical condition of the patient. In cancer of the lower lip the tumor can be generally removed by a broad V-shaped incision at the same sitting. It is probably wiser to extirpate a cancer of the tongue nine or ten days after the neck operation or even at a later time.

It is not uncommon to find lymphatic involvement at a very late date after operations which remove the primary growth alone, and the three-year period, which has figured in statistics of the very small number of recoveries from this method of treatment, is not to be depended on. The following instance is given in illustration: In April of this year I saw a man of fifty-five years of age with a tumor the size of a walnut in the median line of the neck just below the symphysis. His general health had been good but he had been a constant smoker for forty years. The mouth was entirely negative, but on the lower lip, very near the left angle, was a small scar. The patient stated that seven years before an ulcer had appeared on this site which had been pronounced a cancer and had been treated by the application of caustic pastes. It had given him no further trouble. He had always held his pipe on this side of his mouth, but the ulcer had forced him to shift its position to the opposite side which had since been his habit. He had noticed the tumor in the neck but three weeks and it was freely movable. I advised immediate operation but the patient did not consent until one month later. The tumor was then the size of a small egg, firmly adherent to the underlying muscle and directly in continuation with the symphysis of the jaw. The left submaxillary gland was enlarged but there was no general glandular enlargement. The tumor was found to be a metastatic carcinoma involving the submental nodes. The pathologist reported that

all the other nodes removed which he had examined, including both submaxillary salivary glands, were negative.

### Summary.

It is often difficult to decide just how extensive operations should be. From the published statistics I have deduced the following rules for my own guidance and they may be of assistance to others; many of the principles have already been mentioned in the body of this article.

In cancer of the lower lip the lymphatic channels with the submental and submaxillary nodes on both sides, including the submaxillary salivary glands, should be removed by a block dissection; if any of these nodes are thought to be cancerous a block dissection of the deep cervical glands should be done as well on the corresponding side. If the infected glands are in the median line, the deep cervical chains on both sides should be removed.

In cancer of the tongue the deep cervical nodes so quickly become infected that their extirpation, together with the submental and submaxillary nodes and the submaxillary salivary gland upon the affected side, is imperative. When the growth is on the posterior portion, the lower zone of the parotid gland should also be removed and, if this is involved, a dissection of the posterior triange of the neck will also be necessary. Only in those cases in which the primary tumor is on or very near the raphe will it be necessary to operate on both sides of the neck. DaCosta cites an instance in which the disease affected both sides of the neck, the primary tumor being strictly unilateral. Fortunately such instances are rare. The transverse skin incision gives abundant opportunity for the examination of the glands on both sides.

In cancer at or near the alae of the nose the submaxillary and submental nodes, together with the submaxillary salivary gland upon the corresponding side, should be removed *en bloc*. The deep cervical chain is dissected out when the other nodes are involved.

An enlarged gland should be considered as cancerous. Removal of the tissues between the primary disease and the glands adds so much to the risk of the operation that it is not to be performed unless the primary growth is very extensive.

It is safe to prophesy that the time is not far off when all operators will treat the lymphatic area of the neck with the same degree of thoroughness as is now given to the eradication of lymphatic channels in the axilla. We can believe that when this time comes, statistics of cures for cancer of the face and mouth will exceed those of cancer of the breast.

## IMPORTANCE OF THE EYE, EAR, NOSE AND THROAT EXAMINATIONS IN THE RAILWAY SERVICE.*

By A. C. SEELY, M. D., Roseburg, Oregon.

This is rather a long title, but I promise you a very short paper. This subject was selected because I feel convinced that the examination of the eye and ear beyond vision and audition receives too little attention, and the nose and throat none at all.

This conviction is based upon the greater percentage of pathologic conditions encountered in this field among railway employees than in like classes of similar service where a closer scrutiny of these organs is demanded, and further, if the applicant had been properly inspected before entering the service, there certainly would not be such a great number of defective men, since the conditions alone are not sufficient to account for the excessive percentage above noted.

The importance of a thorough investigation of the eye, ear, nose and throat is recognized by the civil service, army and navy examinations; and is, so far as my experience goes, rigidly observed. The American Railway Association have but one provision for these examinations. "Rule 1—Applicants with trachoma or other inflammatory conditions of the eyes, or with chronic discharges from the ear are disqualified."

That is rather too general in its application to the eyes, and ears, and does not take up the nose and throat at all.

The Southern Pacific Company have endeavored to cover the ground by having the following questions put to the applicant:

1. Have you ever had any disturbance of sight such as blurring, pain in the eyes or over the eyes after reading or dizziness?
2. Have you ever had any acute or chronic inflammation of the eyes?
3. Have you ever had ear-ache or discharge from the ears?
4. When did the ear discharge last?
5. Have you any obstruction to breathing through either nostril?
6. Do you take cold in the head easily or have you chronic catarrh of the nose or throat?
7. Have you ever consulted a physician for any trouble with your eyes, ears, nose, or throat?
8. Who was the physician, for what trouble did he attend you, when and how long?

It is our experience that these questions are barren of results. The applicant's answers cannot be depended upon. He is before you to show that he is without fault; obviously he will not confess them if he has any. If his application was for benefits, rather than employment, he could immediately flood you with symptoms. I may admit that I am suspicious of most applicants for whatever form of employment or insurance. In answer to questions they often say, "That is up to you to discover." And assuredly, they do not lend their aid in the investigation. Not infrequently, while examining the applicant's nares, where the diagnosis was pus-written in box car letters like the handwriting on the wall, I have asked him if he had ever had nasal catarrh, and he would cheerfully answer, "No." And when you exhibit the evidence of such chronicity they account for it by saying, "They caught a little cold last night."

Again the evidence of the importance in the examination of these special organs lies in the entailing of grave diseases from the slighter ones. These lesions, simple in the initiative, may not only disable the individual, but in time may be the causation

* Read before the Pacific Association of Railway Surgeons, San Francisco, August, 1909.

not infrequently of the various railway accidents, in which so much destruction occurs. It is not a far cry to say that an examiner by carelessly overlooking an incipient lesion of the eye and ear becomes indirectly responsible for some of these accidents.

Another feature, and one that is not usually given due consideration, is that a man with even a mild lesion of either of these organs, is less fitted for the proper completion of his duties. It is well known among oculists that a low error of refraction causes more headache than does a high one. A chronic recurrent tonsilitis certainly unfits an employee from anything like efficiency. A nasal catarrh from whatever source detracts from the possessor's credit as an employee.

From a purely selfish standpoint, it must follow that the less number of faulty men accepted, the less number of men you will be called upon to render services.

Seeing that the examination for these four areas is almost entirely within visual search, it becomes a matter of wonder that even gross lesions are so frequently overlooked. It may be due to sheer carelessness or probably of not looking at all. By no means does it require a specialist to make the necessary examination. It is much more readily done than getting a true anamnesis, and is far easier than percussing the throax, palpating the abdomen or searching the G.-U. field. I would not emphasize this if it were not that we have nearly every day evidence that if such examinations were made at all—they were merely cursory.

With this evidence I feel that it would not be wasted time to run over the various examinations—not that I may teach you anything new, but to recall the forgotten or neglected to your mind and to provoke an instructive discussion.

This paper primarily has to do with conditions other than those discovered by the 1st, 2nd, 3rd and 4th tests of the personal record. It is inferred that every examiner is particularly careful in taking the applicant's acuity of vision and hearing, though I should like to note in passing that it might not be amiss to have the examiners themselves tested for colors. This suggestion is born of an experience in which I had occasion to re-examine an employee, who had been accepted, and who failed to distinguish either red, blue, or green, one from the other.

Without question, the eye heads the list in the order of importance. It is by far the easiest of the four to examine, since every part of it is accessible to vision, and yet I am sure that it is the subject of thorough examination the most infrequently.

In the matter of examination it is best to adopt some routine that insures one of not overlooking any of the various structures. There are three partners of us in the office, and each of us make "railroad" examinations, and it is our habit to take the 4th test first, then the 2nd, and 3rd, then the 1st, following these with the special examination of the eye, ear, nose and throat. For our convenience, we have devised a form with everything required in a railroad examination printed on a slip. This slip enables us to jot down the various points as each part of the examination is concluded without loss of time and permits of a neater record being made when time is not so pressing.

We preserve the order of the tests as above mentioned because it facilitates the work since the candidate can take the lantern part of the 2nd, 3rd and 1st tests without moving from the chair.

Our order of the special examinations does not differ materially from that of other examiners who endeavor to be careful. Beginning with the eye, it is our habit to inspect in the order named; the lids, puncta, lachrymal duct, and the conjunctiva, incidentally getting the ocular tension. While all pathologic conditions should be observed, the examiner should especially be on the lookout for trachoma and dacryocystitis. Left to my own decision, I would not accept an applicant with either affliction. Not only is he a constant source of infection in the first, but he is, at once, a care and an expense.

It seems singular that what is denied in one is permitted freely in other employees. This is especially illustrated in trachoma, which is most prevalent in the Japanese employees. These are, for most part, section or extra gang laborers, and are, according to the rules, exempt from medical examination. They do more with their utterly unhygienic habits to disseminate this disease than is realized by the Hospital Department.

Next the cornea and anterior chamber is examined, both by direct and oblique illumination, with the attention especially directed toward the nebulae and cicatrices of the so very prevalent foreign body injuries, most marked in the "experienced" applicant.

The iris and lens is examined with a + 16. Without doubt a great many of the employees, who are now a source of care to the Hospital Department, would not now be in the service if the examiners had carefully inspected these very important structures. An examination of the present employees would result in the finding of an astonishing lot of chronic ailments, now demanding attention, that were present to some degree when they entered the service.

Only a few days ago, we had an employee for re-examination who had iridodialysis of the entire external quadrant, and no note had been taken of it whatever—a condition certainly visible to even a casual observer.

Examining the vitreous and fundus is not at all difficult and only takes a moment, and many times discloses things that ought to appear in personal record. Taking the field should be among the requirements of the examination.

Next the ear is examined and it only requires a glance to discover the condition of the external canal, and the membrana tympani, and but a moment longer to determine the patency of the eustachian tube. The application of the tuning fork test is not at all difficult and in case of doubt should be applied to aid in discovering lesions that may be as yet incipient.

The examination of the nose is readily done and should not be considered complete without a post

nasal inspection with the mirror. Extensive hypertrophies of the turbinates, nasal deflections and sinus involvement should always be noted; these pathologic conditions have a greater bearing on the effectiveness of the employee than usually credited. A man who has not a clear nasal breathing space, is the one who crosses your path as often or oftener than the habitually constipated individual. These things beget him his headache, blurred vision, and irritable temper, whereby he mixes his proper conception of things.

The examination of the throat ought to begin with the mouth, though most larnygologists pass it by as of no consequence. But in railway examinations, it seems most advisable that it be given a thorough inspection. While chronic stomatitis and Riggs diseases are not considered a bar to entering the service, they should at least be noted. For the throat proper, hypertrophic or diseased tonsils and chronic follicular pharyngitis seem to be the rule rather than the exception among railway employees, where, if a more rigid selection was practised, hospital expenses would be cut down materially, and the railway surgeons would have far less work.

As for the larynx itself, if its conditions were determined solely by the answers of the patient—its lesions would go entirely unnoticed. Tubercular and malignant conditions are a positive bar but how many surgeons take the trouble to look for them? When one calls to mind that, according to Lockard, nearly 35% of the pulmonary tuberculoses have laryngeal involvement, and that it is most common between the 20th and 40th years, it behooves the examiner to know if the applicant may or may not have a tubercular spot in this region. It is admitted that the larynx is more difficult of examination than either of the others, yet this should be no reason for passing it over without inspection.

In conclusion, the importance of the examination of the eye, ear, nose and throat in railway service lies in the following summary:

1. It is evident that the applicant must be examined—the anamnesis is untrustworthy.
2. Declining those who are afflicted will result in the employment of more efficient men.
3. The prevention of the dissemination of infection, i. e., trachoma and tuberculosis, etc.
4. Elimination of free care and treatment at the hands of the railway surgeon.
5. Cutting down the expense of the Hospital Department, so that funds may be applied toward protecting the health and comfort of those who contribute to the fund.
6. Finally there can be no more excuse for making hasty and incomplete examinations in the eye, ear, nose and throat than in any other part of the body.

### Discussion.

Dr. Robert W. Miller, Los Angeles, discussing:

I am quite sure that the importance of this paper is by no means thoroughly appreciated. I am sorry that a number of the members of this Association have missed hearing the reading of this paper. The examination of the eye, ear and nose and the throat I find very important, especially in those patients suffering from chronic illnesses of the upper air passages, chronic ethmoiditis, etc., and these patients come in for operation a little later on. The tendency is to-day in the railroad offices to employ the younger man; it is astonishing how the young man has come to the front, a large amount of clerical work is done by boys from 17 to 25 years of age, men even of the age of forty are considered as not very efficient in the line of clerical work. A great many of these men come in for examination within 90 days of the time of starting in their duties complaining of chronic suppurative otitis media and not nearly so many are found suffering from that as from eye strain. If this paper is to be given publication I hope it will be very carefully read and that you will lend your careful cooperation to the matter.

## AMEBIASIS.

By J. D. LONG, Passed Assistant Surgeon, United States Public Health and Marine Hospital Service.

Since December 1, 1908, I have seen in the Marine Hospital and in the City of San Francisco one hundred fourteen cases of amebiasis (114).

The source of infection of these cases was as follows:

| | |
|---|---|
| San Francisco and vicinity | 38 |
| Stockton and Sacramento, Cal. | 8 |
| Colusa, California | 1 |
| Petaluma, California | 1 |
| Los Angeles, California | 2 |
| San Mateo, California | 1 |
| Galveston, Texas | 1 |
| Mexico | 24 |
| Philippine Islands | 8 |
| China | 5 |
| Territory of Hawaii | 7 |
| India | 1 |
| Jamaica and West Indies | 1 |
| Brazil | 1 |
| Tahiti | 3 |
| Unknown | 12 |
| Total | 114 |

Amebæ have been cultivated from the following sources by myself:

Lobos Creek water.

Water from drinking tank SS. Mariposa.

Stockton, California, city water supply.

Water from well 63d street and San Pablo avenue, Oakland, California.

From watercress growing on banks of Lobos Creek.

Amebæ have been cultivated from lettuce bought in an Oakland (California) market by former Acting Assistant Surgeon W. B. Wherry.

That some of these amebæ are pathogenic is evidenced by the folowing cases:

Case 1—Mr. Chief Engineer on Southern Pacific ferryboat Oakland, has been so employed for a number of years; lives at 63d street and San Pablo avenue, Oakland, California. The drinking water for his family comes from a well in his yard; this well is about thirty-five (35) feet deep and goes through a few feet of soil, ten (10) or twelve (12) feet of yellow clay, and then into gravel. He has been suffering from some obscure form of intestinal trouble, which did not respond to treatment for several years.

Examination of stools shows motile amebae. Examination stomach contents shows marked diminution in Free HCl, and in total acidity. Low hemoglobin; red and white cells practically normal.

*Diagnosis.*—Amebiasis with secondary Achylia; is improving under treatment.

A specimen of water from the above mentioned well, showed after culturing, motile amebæ, monads, paramecii, and numerous other protozoæ and bacterial forms.

Case 2—Brogan, sailor, has been at Marine Hospital for some months under treatment for osteo-arthritis of hip probably due to intestinal indigestion of long standing.

During his stay in hospital his stools have been frequently examined to determine what diet was best for his condition, and to observe whether there was any improvement in his intestinal condition. No evidences of amebae were ever discovered.

About one month ago, he picked some water-cress on the banks of Lobos Creek, washed it and ate it. A little over two weeks after eating it, he reported to me at sick-call that he was having abdominal cramps and some diarrhoea. His stool on examination showed numerous motile amebae, some blood, mucus, etc. He was told to go to the same locality, get some more of the water-cress, wash it just as he had done before, and bring it to me. He did so and motile amebae were cultured from it.

In addition to the spread of the disease by means of infected water, the disease is undoubtedly being spread by vegetables, such as celery, lettuce, water-cress, strawberries, cabbage, etc.

I heard Dr. Hassler, the Chief Sanitary Inspector for the city, make the statement to the San Francisco Board of Health at one of its meetings, that fecal matter was being diluted and sprinkled over growing vegetables by certain vegetable gardeners in the city, that he had certain knowledge of it.

Further, Dr. J. T. Watkins, jail physician, stated at the same meeting that the sewage from the county jail was being used in the same manner by gardeners having truck patches near the jail. It was also stated at the same meeting that the persons having vegetable gardens on Islais Creek use the waters of the creek for irrigating their gardens, and that the sewer which drains practically the whole Mission district of the city empties into the creek and from thence into the bay.

The symptoms of the cases varied, some came in with bloody and mucous diarrhoea, others with alternating diarrhoea and constipation, others with constipation alone. In addition to one of the above, there was sometimes symptoms of heart troubles, rheumatic pains, backache, kidney troubles. In short, the symptoms were almost as various as the cases were numerous. At least thirty per cent (30%) would not have been recognized were it not for the fact that every patient's stool is examined, no matter what his symptoms may be.

*The following observations were made:*

Out of the total number of cases, those presenting symptoms of diarrhoea with mucus and blood numbered 28 or 24.5%. Constipation 33 or 28.8%. Alternating diarrhoea and constipation 53 or 46.4%. Hepatitis with enlargement of liver and leucocytosis varying from 10,000 to 18,000—42 or 36.8%. Myocarditis 29 or 25.4%. Abscess of liver 7 or 6.2%.

Of the total of seven, five died and two recovered, four were of local origin and three of foreign origin. Two of these cases died as a result of the abscess, two died as a result of intestinal ulcers perforating, and one died of a sarcoma of the mediastinum. Mortality from abscess 28.6%.

Deficiency in or absence of Gastric HCl, 9 or 7.9%. In none of these cases could other evidences of gastric carcinoma be found, and all are living and well, or well on the way to recovery.

Nephritis 6 or 5.2%.

It would appear as if all of the above conditions could be secondary to amebiasis, as all these conditions were benefited by the treatment given for amebiasis, and did not as a rule respond to other methods of treatment unless the amebiasis was treated at the same time. In fact, one case of severe cardiac incompetency refused to respond, beyond a certain point, to the ordinary methods of treatment, until amebæ, hitherto unsuspected, were found and treatment instituted, when the patient's condition improved remarkably rapidly and he is now well on the way to recovery, and is up and about.

Double infections of typhoid fever and amebiasis were found in three cases, and double infections of malaria and amebiasis were found in eight cases, in one case there were present aestivo-autumnal malaria, uncinariasis and amebiasis.

Two cases showed amebæ in the urine with some degree of cystitis, one was due to an ulcer perforating into the bladder from the rectum with formation of recto-vesical fistula, in the other the avenue of infection of the bladder could not be determined.

In one case in which there was a coincident infection of cercomonas intestinalis with the amebæ, the monads were observed to contain red blood cells, a phenomenon never before observed by the writer nor have I seen it reported.

In addition to the amebæ many cases contained other parasites, as many as six different classes of parasite being found in one patient, but ordinarily not more than two or three varieties were found. The other parasites or their ovae found are as follows:

Cercomonas intestinalis.
Lamblia intestinalis.
Uncinaria.
Oxyuris vermicularis.
Dibothryocephalus latus.
Taenia saginata.
Tricocephalus trichiuris.
Ascaris lumbricoides.
Strongyloides intestinalis.

The differential diagnosis of amebiasis is not difficult, the presence of motile amebæ in the stools being sufficient.

The treatment consists of a careful regulation of diet, e. g. total exclusion of meat, flesh or fowl, and such other articles as, examination of the stools shows, are not being digested, digestion may be aided and fermentation controlled or checked by the use of Pancreatin in salol-coated capsules. Ipecac, solid extract, in salol-coated capsules is indicated where there is hepatitis with enlargement of liver and an increase of leucocytes over normal, also, to

assist in removing accumulations of mucus, and to promote the flow of bile, where it is markedly diminished, two grammes (2) are given once daily and will not cause emesis unless the capsules are not properly coated, or unless the patient has an idiosyncrasy for the drug.

Where there is myocarditis with irregular heart action digitalis is indicated, Nephritis calls for diuretics such as calomel, diuretin, etc. Osteo-arthritis, most commonly of the spine, calls for mercurial inunctions and potassium iodide, with rest in bed with no pillow and with pads under cervical and lumbar spines to restore normal curvature. This complication is most annoying and many patients suffer constant pain, such as lumbago, sciatica, intercostal neuralgia, occipital headaches, and where there has been long-continued pressure on the nerves from osteo-arthritic deposits I have seen muscular atrophies. We have had several cases of asthma, due to pressure on the intercostal nerves by osteo-arthritic deposit in the dorsal spine, the asthma in these cases being of the inspiratory rather than the expiratory type; they have all recovered as the amebiasis improved.

The local treatment of amebiasis consists in high enemas, given in the knee chest position, beginning with a 1-8000 solution of quinin bisulphate and increasing gradually to 1-500, giving as much of the solution as the patient can retain. It should be held as long as possible. Enemas of the silver salts, thymol, potassium permanganate, etc., have been tried.

In cases where there is great and constant pain, gas formation, and where the bowel can be palpated and is distinctly thickened, an artificial anus should be made by bringing up a loop of ileum close to the ileo-cecal valve. This allows of irrigation of both large and small intestines, and places the large intestine, which is approaching gangrene, at rest.

This operation has been recently performed three times, twice by Dr. C. G. Levison of this city, and once by Acting Assistant Surgeon Alanson Weeks. All three cases were in a very grave condition prior to the operation. One is now up and about and back to normal weight, one other will probably die of a nephritis, his amebic condition is much improved and pain is gone, the third patient is improving also but was operated only a few days ago, hence no conclusion can be drawn as yet. The prognosis of amebiasis is good as far as saving life is concerned, unless there is abscess of the liver or an extensive ulcerative or gangrenous colitis; the prospect of complete cure is very bad, as the present methods of treatment do not seem to be adequate,—the patient recovers from the attack but the amebæ persist in the bowel for a long time, and relapse is frequent.

### Conclusions.

(1.) Amebiasis is endemic in California and is disseminated by means of water and vegetables such as watercress, strawberries, celery, cabbage and lettuce, these substances being infected by the practice of sprinkling human fecal matter over vegetables and the soil for purposes of fertilization.

(2.) Amebiasis is a serious disease, the tendency of which is to become chronic and produce secondary complications such as diarrhoea, constipation, abscess of the liver, hepatitis, nephritis, myocarditis and osteo arthritis.

(3.) The disease is difficult of diagnosis by ordinary methods, for the reason that the secondary complications are often so manifest as to overshadow the original disease, and further, even where the disease is suspected, it cannot be confirmed without careful and repeated examinations of a liquid stool produced by a saline, until living, motile amebae are found.

(4.) The treatment while adequate to save life, in the majority of cases, is inadequate to effect a permanent cure.

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## CESAREAN SECTION WITH REPORT OF NINE CASES. *

By ALFRED BAKER SPALDING, M. D., San Francisco.

Although many leading obstetricians have sounded warnings lest we forget those time-honored and supposedly more conservative obstetrical procedures that have served women for generations in their hour of difficult labor, the spirit of surgical aggressiveness of the past twenty years has carried all before it, so that at the present moment it is difficult to discuss accurately the relative value of the operation of Cesarean section on the one hand and the operations of high forceps, version, pubiotomy and induction of premature labor on the other. It is so much a problem of personal experience and the application of principles which vary widely with each individual case that it is almost impossible to judge the operation per se. The statistics which have been compiled in relation to the mortality and morbidity following Cesarean section must be carefuly studied in order to be understood. There is a certain mortality and morbidity after spontaneous labor that can not be avoided and the conditions which call for Cesarean section of necessity carry a much higher mortality and morbidity. In judging of the value of the operation therefore for any particular case, one must know the unavoidable mortality and morbidity of spontaneous labor, the mortality and morbidity of the particular abnormal labor under consideration when untreated and the mortality and morbidity of the condition when treated by all the various obstetrical procedures, including Cesarean section.

Several obstetrical surgeons have performed this operation a large number of times with a maternal mortality of less than 5%. Richardson, of Boston, after compiling carefully the experiences of many of our best operators, places a mortality of 5% for the conservative operation when performed before the onset of labor, but this increases rapidly when performed late in labor to 12% and 50%, according to the amount of exhaustion induced and the presence or absence of a beginning uterine infection. In ideal cases there should be no fetal mortality or morbidity. Operating without trained assistants and amid surroundings that are not ideal gives to the operation, however, a much higher ma-

* Read before the California Academy of Medicine, September 28, 1909.

ternal and fetal mortality. Moreover, it is not the operation itself that presents the greatest difficulties but the judgment needed to decide in each individual case the need for the operation.

Because the process of childbirth is deemed by so many to be a natural procedure and because in such a large percentage of cases nature is able to manage the confinement unaided the profession in general and the laity in particular are loth to encourage in a pregnant woman, that study and attention which is demanded of all other classes of practice; and the laity at times even resent as unnecessary interference the needful prophylactic examinations. It is only by carefully and completely examining every obstetrical patient that we can classify or pick out the patient who will need a Cesarean section. For illustration, I find, after reviewing the records of 900 private and clinic patients, that there is noted among the clinic patients a percentage of 8% of contracted pelvis and in private and hospital cases a percentage of 11 2-3% In other words, the idea that here in California patients with contracted pelves are a rarity is erroneous; the idea has gained ground because no one has made systematic examinations.

Again, for illustration, of thirty cases of contracted pelvis met with in the first 200 confinements in the University of California Hospital, 18, or 60%, had either a normal spontaneous labor or were delivered by low forceps with no maternal and only one fetal death due to prematurity. Of the remaining thirteen, however, there was one difficult breech extraction, 4 mid forceps, 4 high forceps, 1 induced labor and 2 Cesarean sections with a loss of 3 babies and one with serious head injury. The case of induced labor and two of the four cases of high forceps ended in death to the baby, while one baby delivered by high forceps was seriously injured. The loss of these infants was a sacrifice to obstetrical misjudgment as the babies saved by Cesarean section are a triumph for correct obstetrics.

At the present time the chief indication for the operation of Cesarean section is found in those cases of pelvic disproportion where the probability of a forcible extraction ending in death or cerebral damage to the child is imminent or where the mother is liable to serious injury or possible death by such forcible vaginal procedure. The day for craniotomy on a live child is over and symphysiotomy has almost ceased to be considered while the operation of high forceps, version and induced labor in cases of contracted pelvis are giving way more and more to Cesarean section in properly selected cases. The only operation at present that seems to meet with a growing favor is pubiotomy combined with forceps or version. Certain cases of placenta previa are by many surgeons treated by abdominal Cesarean section, although in general this method of treatment is still condemned by many obstetric surgeons. Personally, my experience has been such as to favor the operation in cases of complete placenta previa at or near term where the cervix is undilated, the mother and child in good condition and suitable surroundings and a skilled operator at hand. The operation is also indicated in some cases of eclampsia, although probably better results can be had with the vaginal operation. Prolapse of the cord in cases of moderate pelvic contraction might also give indication for the operation as in fact any serious complication blocking labor when the life of the child is in danger.

In my series of cases I operated once for a large hematoma obstructing the pelvis for the following reasons: the hematoma was so extensive that all the vulvar and perineal region was in a condition of oedema from extreme pressure; in addition the fetal heart was 90, the patient was in a good hospital and facilities were present for handling successfully a Cesarean section. The mother and baby both lived, and the genital tract did not become infected, although the cavity of the hematoma became septic and in part necrotic. Succeeding the delivery by Cesarean section the hematoma was opened and packed with camphor phenol gauze and remained isolated from the peritoneum.

Operations more or less intricate have been devised for the extraperitoneal operation of Cesarean section complicated by sepsis, although many operators still prefer in such condition the Poro operation of hysterectomy and when possible delivery per vaginam, even at very great risk to the child.

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I desire to present to the Society my experience with nine cases of Cesarean section, five of which were operated upon by me and four seen in consultation. I present the report because in each case some obstetrical procedure such as premature labor, version, high forceps and pubiotomy or Cesarean section was necessary and these particular labors I believe would have terminated fatally for many of the babies and possibly some of the mothers had not Cesarean section been the operation of choice.

In this series all the mothers are alive and uninjured and all the babies are alive but one who was so toxic and immature from a complicating maternal endocarditis and nephritis that the operation can hardly be blamed for the loss.

Case 1—Primipara, 18 years of age, single.—Tuberculosis of the left hip when 2 years old; joint resected at that time; pelvis coxalgic; true conjugate 8 centimeters. Labor due November 1, 1905. Operation at Lane Hospital before the beginning of labor pains on November 13, 1905. The cervix was dilated to about 3 centimeters followed by Cesarean section and excision of the uterine ends of the tubes to cause sterility. Boy baby delivered in good condition weighing 8 pounds; biparietal diameter 9 centimeters. Patient suffered after the operation with an acute tubercular pneumonia but recovered and left the hospital with the baby one month later. Tubercle bacilli were found in the sputum.

Case 2—Primipara, 35 years old.—Dislocation of the right hip when five years old. Has not been able to use right leg since; leg shortened about 3". True conjugate 9 centimeters; over right sacro iliac synchondrosis is a projection of about ¾" obliquely contracting the pelvis; external measurements of the pelvis normal except for evidences of rachitis. Patient was married a number of years and was very desirous of having a child. Labor

due December 30, 1907. Labor pains started at 11 p. m. December 30. Operation performed at the University of California Hospital, 11:30 a. m., December 31. Although the pains had been strong there was no indication that the head would enter the pelvic brim. On opening the uterus a most profuse hemorrhage occurred from incision through the placenta site. Female child in good condition weighing 7 pounds 10 ounces was delivered. The mother suffered afterwards with a stitch abscess from which a pure culture of diplococci was obtained. Before the wound closed a Pagenstacher stitch was discharged per vaginam. Patient with baby in good condition was discharged from the hospital in February, 1908.

Case 3—Primipara, 20 years of age, single. Pelvis simple flat, promontory easily felt; true conjugate 8 centimeters. On March 23 unsuccessful attempt was made to force the head of the child into brim of the pelvis by suprapubic pressure. Labor pains began March 26, 1908, and were regular but poor in character. On March 31 the cervix had dilated only to 3 centimeters, the head was partly in the brim, the pains were still irregular. On April 2 the pains were hard but regular. On April 5, 11 p. m., pains became regular and very hard, at 6:30 a. m. the position had changed to a breech which was now felt high above the brim. At 11:30 a. m. the breech was still above the brim, cervix dilated 9½ centimeters, membranes unruptured. Mother and baby were in good condition and it was judged safest to deliver by Cesarean section. I did not see the patient until the morning of April 6, although I had previously carefully measured the pelvis and classified the patient as a probable case for Cesarean section. Operation at the University of California Hospital. Hemorrhage very slight. There was considerable difficulty in reviving the child due to an excess of anesthesia, otherwise both mother and child had an uneventful recovery.

Case 4—Consultation May 25, 1908.—Primipara, age 30. Normal pelvis. Sudden profuse hemorrhage with first labor pain. On vaginal examination cervix was found thick, 2 centimeters dilated with the placenta overlying the internal os. Mother and baby were in good condition and in a suitable hospital. Operation was advised and immediately performed by Dr. Florence Ward. Girl baby in good condition was delivered and recovery for both was uneventful. In this patient seven years previously one ovary and tube had been removed and the uterus stitched to the abdominal wall. At the time of operation there was no evidence of the previous hysteropexy.

Case 5—Consultation October, 17, 1908. Threepara.—First labor lasted several days and was terminated with forceps; the baby stillborn. Second labor lasted thirty-six hours; terminated with forceps; baby injured so that it died several weeks after delivery. Pelvis justominor flat, true conjugate between 7½ and 8 centimeters. Recommended that Cesarean section be performed about November 7. On Novmber 9 Dr. Somers operated. Girl baby weighing 7 pounds, 10 ounces was delivered in good condition, biparietal diameter 10 centimeters. Mother and baby recovered.

Case 6—Consultation October 26, 1908. Threepara.—First labor lasted three days, terminated by forceps and embryotomy, perineum lacerated into the rectum. Second labor premature at the seventh month lasted 36 hours, terminated by forceps, baby stillborn. Patient in labor at the present time; child lying transversely; membranes unruptured; pelvis simple flat type; true conjugate 7 centimeters. Immediate operation advised. Operation by Dr. Wakefield. Profuse hemorrhage, from incision through placenta site. Girl baby delivered in good condition, both recovered without complications.

Case 7—Primipara—Eighteen years of age. Patient attended in labor from Dispensary of the San Francisco maternity by Drs. Wrenn and Mahon. Labor progressed normally until head appeared on the perineum. This was at 11 a. m. Then a small tumor which was thought to be a hernia appeared in the left labia. This rapidly enlarged involving the vulva and perineum and causing the child's head to recede to the pelvic brim. Patient was etherized and hurried to the University of California Hospital where I first saw her. Operation March 29, 1909. Both mother and baby were in poor condition at the time of operation, maternal pulse 130, fetal heart 90. After a rapid abdominal extraction the pelvic hematoma was incised, clots removed and cavity packed with camphor phenol gauze. The baby was with great difficulty revived but was discharged with the mother in good condition on April 26.

Case 8—Primipara, 24 years old—Pelvis was rachatic, justominor, kypho scoliotic. True conjugate less than 8 centimeters. Chronic nephritis and chronic endocarditis, (aortic stenosis). Labor due June 20, 1909. On June 20, after ten and a half hours labor pains without engagement of presenting part, an immature baby was delivered alive by Cesarean section. Biparietal diameter 8 centimeters. The baby died about one-half hour after birth of respiratory failure. Mother recovered without complication and discharged July 16.

Case 9—Consultation, July 13, 1909. Primipara, 35 years of age.—Patient in labor. Two weeks previously had had sharp hemorrhage which had returned with the onset of labor pains much more severely. On examination the placenta was found covering the cervix completely, which was about 2 centimeters dilated. The fetal heart was 144, strong. The mother's pulse 72. Patient in a hospital and in good condition. Advised immediate Cesarean section. Operation by Dr. Florence Ward. Considerable hemorrhage from placenta site, which was easily controlled. Placenta was adherent to lower uterine segment lying over the cervix. Baby deeply asphyxiated but revived in about 25 minutes with hot and cold baths. Mother and baby recovered without complications.

From these experiences and from a review of the recent literature it appears to me that the field for the operation is a larger one than is at present acknowledged. The operation will without doubt in the future, as possibly it has in the past, be performed in inappropriate cases and will when attempted without due care and suitable assistants fail to attain the best results. I believe a fair test of labor in most primiparae is necessary and without harm if sepsis and pelvic injury be avoided. It is important that the time of anesthesia be short because of the effect on the child. This calls for a skilled anesthetist as well as a rapid operator and careful repair must be instituted to avoid the danger of future uterine rupture. In addition the child when delivered must be entrusted to a skilled assistant or else the very object for which the operation is performed will in some cases be defeated.

### Discussion.

Dr. W. Francis B. Wakefield: I think with Dr. Spalding that the field for Cesarean section will gradually increase as we habitually study our cases more carefully. I believe that every one doing obstetrics should study each individual case carefully, measuring each pelvis accurately, determining its relation to the size of the foetal head and pelvic inlet, and if this is done I believe we will arrive at very definite conclusions and be able to perform

Cesarean sections with definite indications. I believe that Cesarean section should always be performed where we have a true conjugate of from 7½ to 8 cm., 7½ in the simple contracted and 8 in the general contracted pelvis. It is not in these cases that our difficulty arises however, it is in the cases that are just a little larger, perhaps 8½ cm., and where we have relative disproportion between the head and pelvis. Then we have to decide between one of several maneuvers. One would be to induce premature labor; another, Cesarean section after a test of labor; another, extract the child by means of high forceps; and another, to perform pubiotomy, with or without mechanical assistance. It seems to me that the decision between these will depend upon a great many factors. In the first place, I do not believe that everybody should do Cesarean sections. I believe that if the case is in the hands of a man who is skilled in abdominal surgery, or if such a man can be brought into the case to do the Cesarean section, then Cesarean section is the operation of choice after a fair test of labor. On the other hand, if the condition of the patient is such that abdominal operation would not be advisable under ordinary circumstances, then, it seems to me, after a fair test of labor, that pubiotomy assisted by forceps would be the operation of choice. I believe that pubiotomy has come to stay. I believe that it is a relatively simple operation; that, as we perform it more frequently, we will find its technic simplified, and that it adds very little to the mother's general risk and undoubtedly gives a better opportunity to save the lives of many children that would otherwise be lost. Personally I would prefer Cesarean section to pubiotomy but I believe that under most circumstances, in the hands of the general surgeon and in country practice and where it is not possible to get the patient into the environment for laparotomy, that pubiotomy is going to open up an important field. I believe that the increased mortality that has been accrued from Cesarean section has been more from sepsis than from exhaustion. Where we have a pelvis partially contracted the technic should be scrupulously carried out during examinations, etc., in order that no infection shall have entered the uterus. Usually when we go to these cases Cesarean section has not been suggested to the minds of the accoucheur and the examinations have been made frequently and oftentimes under not very exact sepsis and the result is that more or less infection has gotten into the vaginal vault. I repeat that the majority of these cases die from sepsis rather than exhaustion which makes these late Cesarean operations have such a large mortality.

Dr. A. B. Spalding: I have never done a pubiotomy for the reason that the Cesarean section patient seems to me to have a less complicated recovery ahead of her. It is stated that there is no great danger from the pubiotomy. You simply take a long, specially curved needle, pass it close to the posterior surface of the pubic bone from about the spine to the pubes down and out to the middle of the labia majora. The urethra is pulled to the other side by an assistant. Then with a chainsaw the bone is rapidly severed, the pelvis opens. It separates for 5 cm. and allows a forceps delivery or version. In Dr. Williams' series of cases nearly every case reported was more or less severely lacerated and in one case the bladder was injured, which you should not get in a Cesarean section. They used to bandage the patients and put them in tight jackets, but that is not done any more. The patients seem to be benefited when there is not a too tight union of the symphysis because of the soft cartilagenous union making subsequent delivery of the head easier. This operation is easier than a Cesarean but the result to my mind is not so perfect. It has, however, a field distinct from Cesarean section, namely, when the contraction of the pelvis is at the outlet in place of at the brim as in a funnel-shape pelvis.

## GUNSHOT WOUND OF THE HEART WITH RECOVERY.*

By C. J. TEASS, M. D., Kennett.

The first successful operation for relief following a gunshot wound of the heart was performed in *1897 by A. G. Podres,* who on the second day made a skin and bone flap containing the left lower portion of the sternum as well as the cartilages of the third, fourth, fifth and sixth ribs and having a lateral base. Upon opening the pericardium it was seen that the wound of the right ventricle, about one cm. long, had become closed; so he did not attempt to suture it, but did make more than ten punctures with a needle, hoping to locate the bullet in the heart wall, but as this was without avail, the heart was taken up and carefully palpated with the hands, but no bullet was found. When last heard from the patient's condition continued to be excellent.

But as far back as *1815* we have the autopsy findings by *"Latour"* of a soldier who was shot several years previously and had died from another disease. At autopsy bullet was found encapsulated in right ventricle near apex, partly covered by pericardium and partly resting on septum medium.

Again in *1819 H. Suckow* found bullet in right ventricle cavity many years after the wound was inflicted.

And again in *1861 G. B. Balch* reported a case in which a bullet remained twenty years in the wall of the right ventricle.

A few more interesting cases could be reported with which I will not take up your time. Suffice it to say that it seems rather strange to us at this hour of surgical progress that such a master surgeon of his day as Billroth should sound the warning: "Let no man who hopes to retain the respect of his medical brethren dare to operate on the human heart." For we naturally think in attempting to look back some twenty years that so bold an operator would have taken cognizance of such autopsy findings which were quite sufficient to definitely establish the important fact that the heart muscle could be quite severely damaged without a necessarily fatal issue, and that he would have dared to venture where others might follow for the relief of direct injury to the heart muscle. From a diligent search of the literature I have been able to gather thirteen authenticated cases (exclusive of my own) of gunshot wounds of the heart with recovery following an operation for their relief, and with the exception of the one already referred to by Podres in 1897, they all are of recent record, beginning in *1902 when Launay* resected costal cartilages of fourth, fifth and sixth ribs and sutured anterior wound of left ventricle 2 cm. from apex. The wound of exit was sutured with great difficulty, after which all hemorrhage ceased. After cleansing pericardium drain

* Read before the Pacific Association of Railway Surgeons, San Francisco, August, 1909.

was inserted in lower portion and was removed in forty-eight hours. Auscultation of the heart revealed nothing abnormal after ten days.

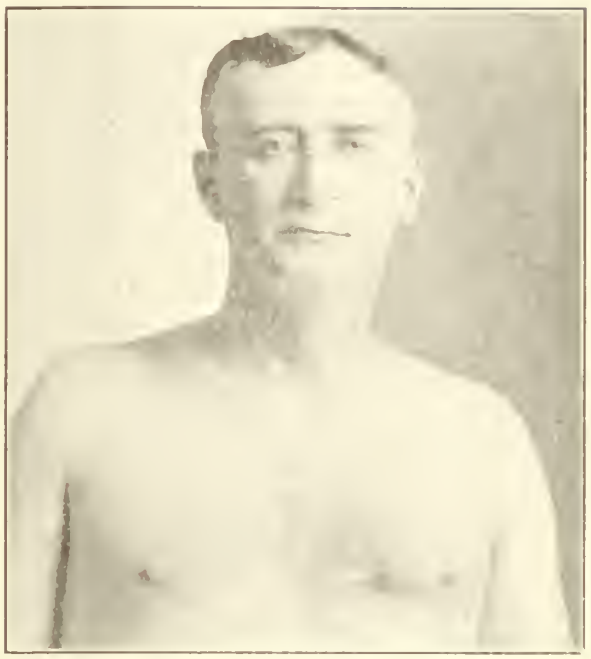
*On September 10th, 1902, Noll* resected portion of fifth rib thirty minutes after girl had inflicted a pistol wound with suicidal intent. Opened the pericardium and sutured a wound of left ventricle, applied a drainage of sterile gauze in pericardium, inserted a large rubber drain in pleural sac. The pericardial drain was removed after twenty-four hours, the pleural drain was removed on the 20th day after the operation. It had been changed daily beginning with the fourth day. An unpleasant complication seventeen days after the operation was a circumscribed empyema which was promptly drained, and on the 15th of November patient was entirely well, left hospital and performed the customary housework.

*On September 12th, 1903, Mantouffel*, nine hours after patient was shot, resected fourth, fifth, sixth and seventh costal cartilages, and after opening the pericardium sutured with silk, wound of right ventricle 6 cm. from apex, for during diastole a blood fountain ½ m. high emanated from the wound. Bullet was found to be located in the posterior wall of right ventricle 1 cm. removed from the coronaria. Two fixation sutures were applied and then an incision down to the missile with subsequent removal. While attempting to remove it he scarcely prevented the bullet from falling into the ventricle. After suturing drainage was inserted in upper section of wound. The course of the patient was good at first, then a serous pericarditis set in, necessitating the removal of one of the sutures; discharge of abundant serous fluid; no further discharge after September 23d. Patient got up October 2d; wound was closed by October 25th. Patient was kept in clinic under observation until February 15th, 1904.

*On October 10th, 1903, Tuffier* operated on a young officer who had been shot March 10th, 1903, and in whom the radiograph showed the ball lodged in the wall of the left auricle. It stuck for the greater portion outside of the auricular wall. After exposure Tuffier grasped the bullet with forceps and extracted it. No hemorrhage followed. Inserted drain and closed wound. Perfect recovery.

*On June 23d, 1904, Schubert* resected 6 cm. of fourth rib of a young man who had attempted suicide half an hour previously. After opening the pericardium Schubert removed the blood with a sponge and then sutured with catgut the anterior and posterior gunshot wounds of the right ventricle, as well as an incised wound of anterior wall of left ventricle, which was made upon opening the pericardium. Gradual recovery, patient being dismissed August 18th. Bullet had undoubtedly passed through ventricular septum of heart.

*In 1905 Picque* resected large portion of fourth, fifth and sixth ribs of a girl who had shot herself in the heart while in a fit of despondency. Upon exposure a large opening was seen in the pericardium, and after removal of clots, a penetrated wound at the base of the left ventricle, near the inter-ventricular septum was observed. No wound of exit, hence the ball was evidently lodged in the wall of the



heart. Decided not to explore further, nor to suture the heart wound, as no bleeding was manifest. He installed a gauze drain in the pericardium. Medical examination of the patient made October 10th by Talamon showed an absolutely normal heart.

*On June 21st, 1905, Goebell* separated the third, fourth and fifth costal cartilages, severed the sternum with straight chisel, and severed the left sixth and seventh costal cartilages, sutured wound of apex of lung, and left ventricle about 2 cm. below the horizontal coronary artery branch, and posterior wound about 3 cm. further posteriorly. Drainage in lower angle of wound. On the 25th the bullet was extracted beneath the left scapula. Dismissed entirely cured August 10th, 1905.

*In 1906 Wilms* reports a case of gunshot wound of the heart in which the bullet entered the left ventricle at about the middle of its anterior surface and came out at the corresponding point, posteriorly. Made a long intercostal incision two hours after the injury was inflicted and sutured the entrance and exit orifice of the heart with three stitches each. The same was done with the entrance and exit wounds of the left lower lobe of the lung, then the pericardium was sutured and the thorax completely closed, no tampon or drainage. Bleeding had been considerable in the case, one and a quarter liters of blood being found in the pleural cavity and pericardium. Good recovery.

*In 1907 Sutton* made a flap of sternum and left fourth and fifth cartilages; hinge on right thirty hours after a gunshot wound of chest, and placed three silk sutures in wound of left ventricle, with complete recovery.

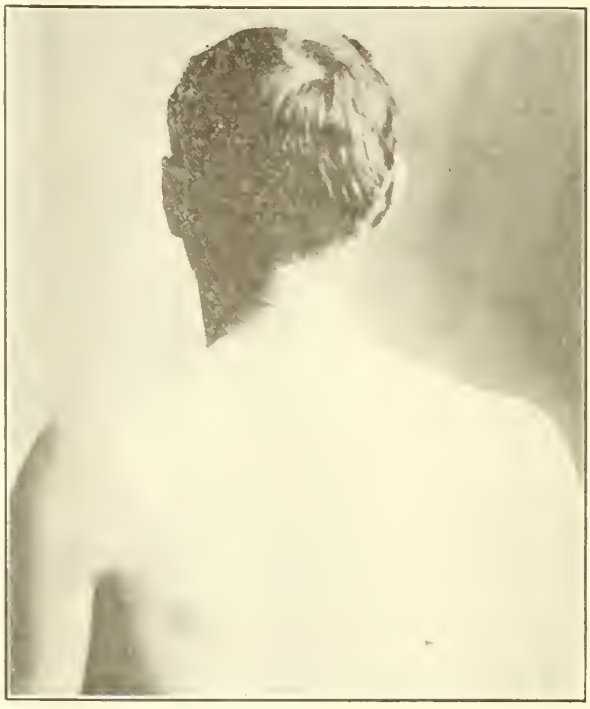
*On July 2d, 1907, A. Guinard* made an exploratory superumbilical incision, as he suspected a lesion of the stomach. The entrance orifice of the bullet was situated exactly four fingers' width to the left:

of the spinous spophysis of the vertebral column in the ninth intercostal space. Found no trace of blood in the peritoneal cavity. Closed opening. Emphysema and blood expectoration continual for about twelve days, then stopped. . Patient left hospital August 15th. After about three weeks of convalescence he experienced precordial pain, sweated freely at nights, could not sleep well, suffered from dyspnoea. The respirations became more frequent and difficult. On November 22d, 1907, a radiograph was made and it was found that the bullet was lodged in the heart. Operation next day. Resection of portion of 6th rib. Located the bullet in the posterior aspect of the left wall near the apex of the heart, removal with the forceps, pericardial drain. Patient was quite weak after the operation, rallied well, drain removed after 48 hours. Epistaxis and signs of pleural effusion some days later. Thoracentesis on Dec. 3rd with removal of 360 c.c.m. of yellowish fluid. Patient completely recovered.

*In 1908 Vidal* made an incision in left 3rd space without resecting rib under positive pressure and ether anesthesia 1¼ hours after patient had been shot in 4th space 10 cm. from median line and put two sutures in wound of left ventricle with no drainage.

*In 1909 Reimann* resected left 4th and 5th cartilages for a gunshot wound perforating 3rd rib of a boy 20 years of age, removed 100 c.c. of blood from pericardium and placed 5 silk sutures in wound of left ventricle. No drainage. Was compelled to aspirate 12 days later for serous pleuritis.

On May 16th, 1908, Mr. Timothy Foley, constable, age 47, while in a dispute with his deputy, received a ball from a 38 caliber revolver, two inches internal to and ¾-inch below left nipple. He was in a stooping position, endeavoring to grab the deputy's revolver with his left hand, when shot. So the bullet took a course downwards, backwards and to the right. In its course, passing through the upper border of 6th c.c. the pericardial sac, right ventricle of heart, and inner border of right lung, and as its force was nearly spent when striking the 7th rib near its articulation, with the vertebrae, it simply turned turtle and lay beneath the skin 2½" to the right of 7th vertebra. Dr. J. P. Sandholdt reached the patient within a few minutes and found him sitting in a chair, but very weak from the shock, so he had him at once placed on a stretcher and brought to the M. C. C.'s hospital where I first examined him in the operating room. The bullet was easily extracted without much pain, but I remember my surprise at finding it on the right side of his spine as I could not understand how it had escaped the heart or the aorta in the course it had taken. But as pulse was full and regular and as the dullness over the cardiac area had not increased from what I had known it to be, I, for the time naturally thought the ball could not have passed through the heart, but on the second day patient began to suffer intense precordial pain, and this rapidly increased until early on the morning of the third day when I found him laboring greatly for breath, and he exclaimed, "Doctor, you will have to tap me here (pointing to his pericardial region) for I am all filling up." And to be sure upon examination I found the area of cardiac dullness had greatly increased. So I decided to open up his pericardial sac at once, by means of Schleisch's infiltration anesthesia, as his condition was such as not to warrant a general anesthetic. A semi-lunar incision was made over the fifth c.c. with its base at the sternum, the cartilage was resected, and when reaching the fat area over the pericardium a small amount of pus was encountered. But fortunately I soon discovered a black hair lying on the sac, which had been carried by the bullet from his chest. So, now being sure, that I had the cause of this first complication, rapidly dissected out the contaminated fat, and then began my search for the bullet wound of the sac which was discovered with some difficulty, as a small globule of fat had effectively plugged it and now, upon rapidly opening the sac, I was surprised to receive a spurt of dark sero-sanguinous fluid ejected against my face; and thereafter, at each pulsation of the heart, a certain quantity of fluid would be ejected from the sac which had formed from an intense pericarditis caused by the passage of the bullet and by the blood that had leaked into it. I now cleansed the sac thoroughly by mopping it out with sterile gauze so that the bullet wounds of the heart could plainly be seen about an inch from the apex over the right ventricle. These wounds were also thoroughly sponged with the gauze; but as there was no oozing from the chamber of the heart I could see no rational excuse for suturing its wounds, so contented myself with double drainage of the sac with tube and gauze, and kept the edges of the pericardial wound permanently retracted by placing silkworm gut sutures from within and through the corresponding side of the skin. Removed drain and sutures on the 7th day.



Patient left his bed for the first time on June 19th, and made a complete recovery with the exception of slow necrosis of the 6th costal cartilage caused by the bullet making a notch in its upper border, and after thoroughly curetting it on July 6th, 1908; Aug. 12th, 1908, and Sept. 3rd, 1908, and a faithful trial of the injection of Bi Paste with no permanent benefit, he consented to take ether and allow me to dissect out the entire cartilage, which I did at the Lane Hospital June 21, 1909.

Will add that Mr. Foley had previously to his being shot gone through three distinct attacks of acute articular rheumatism, and as he had worked in mines most all his life, had developed an athlete's heart and emphysema. Also four days previously to having been shot, he was in San Francisco helping to celebrate the coming of the Atlantic Squadron, and returned home with an acute attack of indigestion with much tympany which greatly aggravated his suffering for the first few days by pressing up against his diaphragm.

The points that I would emphasize in my own case are:

*First*—That the operation saved the patient's life, not only by draining his pericardial sac and thus relieving him of imminent danger, but also by removing a local source of infection which ultimately would have been taken for a general septicaemia of the entire bullet wound tract and consequently no operation for its relief would have been considered.

*Second*—That it is a waste of time to attempt to check a beginning necrosis of a costal cartilage by means of curettage for the only practical procedure is to fully expose the cartilage to view and by means of a knife make a clean cut of the cartilage some distance from its diseased portion.

*Third*—That if I were to do the operation again I would make a flap containing the cartilage and having its base externally.

Dr. A. W. Morton, discussing:

There are very few of us who have had such a case as this one reported by Dr. Teass. I notice in the reports which he has quoted that there were 14 cases all done by 14 different operators and the thing which impresses my mind is this, that as these are all emergency cases each man should formulate an idea as to the best method of exploring the heart. The article mentioned by Dr. Teass fully explains this and shows the advantage of lifting the cartilages of the ribs and turning to the flap. One of the great dangers is that of collapse of the lung but when we get the positive and negative pressure which is being used in Germany we will encounter less difficulty in operating on the heart or the lung. The case which Dr. Teass has mentioned is certainly a very interesting one and as I judge from his report the principal thing he had to do was to open up and drain as he had an infection, but the most of the cases are very likely to need immediate operation on account of the hemorrhage which is more apt to occur in the other forms of heart injuries such as stab wounds.

Dr. Samuel Iglick, Oroville, discussing:

In regard to the difficulty of treating these cases of necroses of the cartilage in that region I will cite an interesting case which I had about 8 years ago at Downieville. An underground miner came to the office with the history of having a spiling fall on him with one end striking his chest. He had suffered from a chronic abscess and a chronic discharge in that locality. One physician had treated him but had not cured him. After probing the lung in all directions I determined that there was some infection of the cartilage, between the cartilage and the sternum. It was the 4th costal cartilage. I attempted the operation which Dr. Teass has done in his case and finally decided to trephine the sternum. I explored the pericardium and thought I had excised a considerable proportion of the necrosed area. The wound healed but the chronic discharge kept up and I could never get the consent of the patient to operate subsequently. This went on until the patient died.

Dr. T. C. McClenve, Berkeley, discussing:

Dr. Teass is to be congratulated upon the success of his case. It is of interest that Dr. L. C. Lane told me that some 50 years ago his uncle, Dr. Cooper, had removed successfully from the pericardium a fragment of metal from a grape shot which had penetrated the pericardium and at operation a portion of this grape shot was found. I do not know that that case ever got into the literature but it is interesting to know that it was done as much as probably 50 years ago by a San Francisco man.

Dr. David Powell, Marysville, discussing:

I remember a very celebrated case which happened in San Francisco and that was the shooting of Colonel —— by —— on an Oakland boat. I was then a student in Cooper College. The autopsy in that case revealed gunshot wound of the heart. Colonel C—— lived nearly 24 hours and probably he might have recovered had he fallen into the hands of Dr. Teass. I remember that the autopsy showed that the blood had passed through the right auricle of the heart, small blood clots had formed so as to enable the weak circulation to keep up life for 48 hours. Now it is possible that if that case had been operated upon promptly the result might have been different. My experience has been mostly with the autopsy of these cases. I have seen some serious injuries of the heart that it is possible might have been relieved by operation.

Dr. Teass, discussing:

I wish to correct one impression which Dr. Morton has with regard to the infection. The pericardium in this case was not infected. The fat on the outside covering of the pericardium only was infected and there was intense pericarditis but not an infected pericarditis.

## SOME PHASES IN THE HANDLING OF TUBERCULOUS PATIENTS.*

By GEORGE H. EVANS, M. D., San Francisco.

So much is constantly being contributed to the rapidly accumulating mass of tuberculosis literature, that it would seem an act of supererogation to add anything to this subject, were it not for the fact that, paradoxical though it may be, the enormous mass of this literature and the great diversity of opinion therein contained, have served to confuse the medical mind. The therapeutic market is congested with sure-cure products, whose exploiters are no less extravagant with their claims than are the over-enthusiastic advocates of this or that particular form of treatment. The result is that the busy practitioner, utterly confused by the bewildering mass of literature, scientific and commercial, too often follows false therapeutic gods, with resulting disaster to those who have been placed in his charge.

* Read before the Fresno County Medical Society, November 2, 1909.

It is time for a sane and conservative review of the situation, and, in this attitude, let us consider for a moment, in the light of what has been actually accomplished, the curability of tuberculosis.

Admitting, as we must, that well conducted tuberculosis sanatoriums offer the best opportunities for successful treatment, and recognizing the general reliability of compiled statistics covering a large mass of clinical material, we are met by the somewhat startling fact, that, aside from a few private sanatoriums where as high as from 80% to 93% of incipient cases recover, in seven of the largest and best known public sanatoriums in this country, less than 50% of the incipient cases are discharged "apparently cured." The proportion of these that subsequently relapse is largely a matter of conjecture. This statement is made because it throws an interesting light on the unreliability of reports which are unduly tempered by an optimism that is placing the curability of tuberculosis in a false light before the profession and the laymen. I do not wish to take the position of belittling the great achievement of the tuberculosis specialist in the magnificent results produced in this field. The great prevalence of this disease in relation to the death rate, great though the latter is; the revelations of the autopsy table; prove conclusively the curability of tuberculosis. I do maintain, however, that a danger lurks in an altogether too prevalent opinion that is fostered largely by advocates of exclusive methods of treatment, to the effect that certain particular remedies are in themselves specifics. I have at present under my care a number of patients, hopeless—as far as prognosis is concerned, victims to this unreasonable principle of specific cure. Though an ardent disciple of the great value of tuberculin therapy, judiciously applied in properly selected cases, and with an ever-increasing enthusiasm regarding its effects, as my experience and opportunities for clinical observation increase, I consider it my duty to sound the note of warning and to caution the general practitioner, in whose hands the majority of tuberculous sufferers must fall, against the baneful results that must ensue, on the application of any so-called specific method of treatment, to the neglect of intelligent daily supervision of his patient along the lines of hygiene, rest and nutrition.

A considerable acquaintance with tuberculosis sanatoriums in this country and abroad in every conceivable climate has convinced me that the results attained are in direct proportion to the intelligence and zeal displayed in the daily painstaking supervision by the medical man trained to this work, rather than to any climatic feature peculiar to the locality, or to any one therapeutic theory that is therein exploited. I am certain that the most intelligent advocates of tuberculin therapy the world over will attest the accuracy of this declaration. This statement does not detract from the value of tuberculin therapy when applied with a recognition of the fact that it is only one of the medical agents, placed in the hands of the physician. The attempt to cure diphtheria with antitoxin without regard to the principles of rest, cleanliness and nutrition, would prove as pernicious as a reliance on mercury and iodin in the treatment of syphilis, ignoring all efforts directed toward the attainment of a normal metabolic balance.

Granting these fundamental principles and recognizing that tuberculosis is a disease of the masses, and carries with it great economic and sociologic problems, the responsibility of the general practitioner stands strongly forth. It will be impossible to refer more than a small proportion of such cases to the tuberculosis specialist. The great majority of them present problems that must be solved by the family doctor, and largely on his success or failure in this respect will society assign his usefulness. Asked what is the first duty of the physician when placed in the relation of attendant to a tuberculous patient, I should unhesitatingly say, the protection of those dependent upon him, and those with whom he comes in contact. Looked at in the higher humanitarian light, the cure of the individual is relatively insignificant compared to the prevention of the disease in tens and probably hundreds of others whose physical wellbeing is jeopardized. Time will not permit of a lengthy consideration of prophylaxis. Anything short of the absolute destruction of sputum, by collecting it in destructible receptacles and burning it, is in our present knowledge of the viability of the tubercle bacillus nothing short of criminal. The altogether too prevalent methods of using such disinfectants as bichlorid of mercury and solutions of carbolic acid are utterly inadequate for a comprehensive and thorough regime of prophylaxis. Every inmate of the home of the tuberculous patient should be submitted to a careful examination, in order to discover instances of incipient disease. Hygienic methods of living should be rigorously instituted, whereby the physical resistance of each should be increased to the point of overcoming predisposition and resisting implantation.

The care of the tuberculous patient, aside from the application of those great fundamental principles of treatment, comprised in out-of-door living, nutrition, the proper correlation of rest and exercise, etc., must depend for a successful issue on the ability of the attendant to individualize. Failure is largely due to the application of a set of therapeutic principles, without taking into consideration individual type and temperament, stage and duration of the disease, the influence of occupation, method of living, and ancestry, all factors through which a thorough knowledge of the actual resistance of the individual must be obtained. It is as important to recognize the fact that a certain type of individual, if sent to a sanatorium, will assuredly become a victim to that very serious and almost hopeless complication, nostalgia, as it is to realize that the only hope of success in the treatment of another type, whose ability to co-operate can not be developed under the influences of home surroundings, is to place him under a daily hygienic discipline which can only be properly carried out under rigid institutional treatment.

Primarily then we must divide our patients into two large classes: those suitable for home treatment and those who require institutional treatment. The question of suitable climate can be promptly disposed of in the light of the results which are being obtained everywhere, where physicians are treating their patients with thoughtful detail. I would tersely state that the question of climate is quantitative rather than qualitative. The patient who lives out-of-doors in this community under the daily watchful care of his medical attendant, whose every hour of rest and activity is zealously supervised, whose every detail of treatment, hygienic and medicinal, is applied with an eye single to the development of the greatest amount of physical resistance to his disease, has opportunity of recovery unattainable elsewhere, without this thorough individual supervision. The advice still so frequently given of sending these sufferers to the mountains or to arid districts to work out their salvation, by an implicit and unreasoning faith in that fetish called climate, unaided by intelligent medical care is responsible for a mortality that is an awful reflection on the judgment of the medical man.

I would therefore submit, as an axiom, that the first need of the tuberculosis patient is the constant personal supervision of a medical attendant, sufficiently interested and trained in the study of this disease, to supply such requirement. I do not mean by this, that these patients must necessarily be sent to the tuberculosis specialist. As has been stated, the majority of them must be cared for by their family physicians and if this large class is to receive the care that society has a right to demand should be accorded them, then there must exist in every community sufficiently large to present tuberculosis as an acute problem, men qualified for this work. This demand must also find expression in a manner that will cause our medical schools to equip chairs for the proper teaching of this subject.

The second axiom that I would propose is, that absolute candor should exist between physician and patient. The patient should be aware of the diagnosis in order that the co-operation necessary to attain success can be secured. I fully realize the popular dissenting voice to this proposition. A considerable experience has convinced me of two things: first, the bad effect of this knowledge on the optimism of the patient has been absurdly exaggerated; second, the path of dissimulation on the part of the medical attendant toward his tuberculous patient is strewn by the graves of more victims to this disease than can be laid at the door of any other error in the handling of these patients. Without a truthful statement to the patient, it is impossible to expect from him that co-operation and enthusiastic attention to the minutæ of treatment necessary for success.

The institution of treatment following a thorough recognition of the above-named principles, places the patient under favorable conditions for cure otherwise unattainable.

The active treatment comprises, first of all, and most important, an adaptation of three essentials, namely, out-of-door living, rest, and abundant nutrition. Out-of-door living implies constant living in the open air. Any modification of this decreases its efficiency and success will largely depend on the literal acceptation of this principle. Various devices have been prepared to adapt this mode of living to the home treatment, and the ingenuity of the attendant must in each case meet the exigency of the situation. Most of the tent devices are faulty in construction and do not admit of the greatest amount of open air. The preference of the writer is the porch, open on three sides, with curtains to be used only as a protection from storm. The sleeping room, even with wide open windows is not adequate for the fulfillment of this principle. If conviction as to the truth of this statement is necessary, one needs but to remove the patient suffering from high fever and night-sweats from the apparently airy room into the open air. Open air is a general stimulant, but particularly to the nervous and digestive systems. If one contemplates the enormous burden the digestive system has been able in many instances successfully to bear, by placing patients out-of-doors and submitting them to a process of overfeeding, now happily generally less popular, its virtue as a stimulant of the digestive system needs no further emphasis.

Rest, absolute, physical and mental, is necessary to meet certain febrile, circulatory and nervous disturbances. Insufficient emphasis has been given to this point by most writers on the subject. The instability of temperature, which is so prominent in the tuberculous patient, calls for the most careful daily supervision of his activity. Herein the average medical attendant usually fails. To allow any modification of complete rest in bed to the febrile tuberculous patient, is in my opinion as irrational as to adopt an ambulant form of treatment for our typhoid fever patients. It is here that the moral and mental attitude of the physician toward his patient finds its greatest activity, for this rest must in many instances be long continued, being prolonged oftentimes for several months. It is frequently found difficult to persuade the patient and his relatives of the great importance of such restriction. Aside from the instability of temperature, there exist a peculiar instability of the heart, due to changes in the heart muscle, the result of toxemia, and a disturbance of its nervous mechanism due to adhesions of the vagus, or pressure from enlarged glands. As the heart is the most important organ to be considered from the prognostic standpoint, every effort should be made to conserve its function, whereby it may be able to withstand the strain upon its mechanism. Complete bodily rest should therefore be rigidly observed until an arrest of the toxemia, as evidenced by a return of normal temperature and pulse, has been accomplished. Then and not until then, gradual increase in bodily activity should be cautiously instituted, finally approaching to full measure of work.

Abundant nutrition must be accorded, with an intelligent conception of the nutritive value of food products as a basis. A popular opinion has pre-

vailed that a process of forced feeding, by means of large quantities of milk and raw eggs, is necessary for a cure, or even possesses specific curative properties. Digestive disturbances thus produced have frequently been found to have inflicted irreparable damage through these efforts at hypernutrition. One is impressed by the data presented by Prof. Irving Fisher to the International Tuberculosis Congress in Washington last year, of reports from 95 of the leading sanatoriums of the world, to the effect that no uniform opinion yet exists upon the subject. Two conclusions are drawn, however, from this report. First, forced-feeding in general should be abandoned; second, the proportion of nitrogenous food should be greatly reduced. An intelligent apportionment of carbohydrates, fat and proteid should be supplied in the least quantity of food consistent with proper nourishment. A sufficient interval between meals should be allowed, to permit of the stomach being thoroughly emptied before the next meal is taken.

I have attempted to emphasize these three important essentials in the handling of tuberculous patients, because they must remain the most potent weapons in the hands of those to whom the majority of these sufferers necessarily come.

The rapid strides with which tuberculin therapy has recently come into popular favor, because of the demonstration of its usefulness in proper hands, will, I predict, be responsible for results which will shortly cause a reversal of opinion regarding it, if it continues to be applied by those who do not appreciate the physiological and clinical importance of hypersusceptibility to this agent in the tuberculous, and who do not qualify themselves to employ it discriminatingly by a thoughtful study of the principles of immunity on which its scientific administration is based. Used under such restrictions and with the patient under close constant supervision, tuberculin at once becomes secondary only, in usefulness, to the three great essentials we have been considering. As the result of any important surgical procedure must necessarily depend on the technical skill, the surgical judgment and experience of the operator; so must the use of tuberculin result beneficially or disastrously, according to the training and experience of the administrator. If this be true, the use of tuberculin as an active immunizing agent, must necessarily be restricted to those who properly recognize its limitations and have prepared themselves by training to interpret its effects.

In conclusion I would emphasize the fact that the aim of scientific treatment of tuberculosis as in all infectious diseases, is the establishment of immunity, either indirectly through the medium of the essential principles here expressed, or directly by the inoculation of tubercle vaccines, whereby the antibodies of the blood are artificially increased.

Aside from the application of these principles, all the much-vaunted remedies, that have from time to time been introduced to an overcredulous profession, have not withstood the test of clinical investigation.

## OBSERVATIONS ON BRAIN SURGERY.*

By CAMILLUS BUSH, M. D., San Francisco.

The last five years have witnessed a steady development in intra-cranial surgery. For this we have specially to thank a few persevering men who looked through the veil of failure and high operative mortality, to the pleasanter land of reasonable success. These men who five years ago were losing case after case of intra-cranial disease—whose daily fare was the bitter bread of defeat and mistake, now have the satisfaction of seeing brain surgery on a par with the surgery of other parts of the body, both as regards diagnosis and results. It is largely due to their persistence and steady improvement of technic that neurologists have been forced to declare surgically hopeful many cases that previously have gone unhelped "zu grunde."

Hand in hand with the technical developments have gone an increase in knowledge of brain pathology and localization of function. As in other fields the surgeon here has learned to know his enemies. He knows the relative prevalence of the various brain diseases, their course, manifestations and associations. In addition, special methods of examination and a rapidly increasing number of symptom-complexes are strengthening his hands. The happy time has arrived when the neurologist is his ally, and not his invariable opponent. The number of operations on the brain is being multiplied, the early stages of intra-cranial diseases are being recognized, and a happy result or occasional cure is no longer an event in the surgical world.

In passing it may be of interest to review in a summary way the parts of the brain that give special symptoms. In addition to the well-known general symptoms of intra-cranial pressure, we have those of involvement of special parts of the brain.

1. Frontal lobe diseases with the psychic and mental disturbances.
2. Speech area lesions with the various forms of aphasia due to involvement of the cortex of Broca, or of the various association paths.
3. Motor cortex diseases in the parietal lobe, causing irritations or palsies, or both.
4. Sensory cortex diseases with corresponding anaesthesias, hyperaesthesia, pressure, and temperature disturbances.
5. Steyognostic disturbances in sensory cortex and asymbolia in motor area in the temporal lobe.
6. Auditory center manifestations in angular and supra-marginal gyri.
7. Olfactory center aurae in uncinate gyri.
   In the occipital lobe.
8. Visual interferences.
   Below the tentorium.
9. The cerebellar diagnostic pictures of rapidly developing dizziness, ataxia, nystagmus, astheria, etc., with the added features at times of medullary pressure—respiratory and pulse changes.
10. The lesions of the cerebello—pontile angle—

* Read before the Academy of Medicine, October 26, 1909.

characterized by hind brain symptoms in addition to basal nerve stem symptoms.

11. There is even a symptom complex for the loose cysticercus in the fourth ventricle—intermittent attacks of medullary pressure manifestations with free intervals.

12. The question of the hypophysis and its diseases is too extensive a one to go into at this time, but it may be said that aside from the question of acromegaly, gigantism, etc., that the chief characters of pititiary tumor are drowsiness, primary optic atrophy, lowering of sexual activities, fattening, etc., dependent of course on whether the gland is stimulated or depressed.

13. Apraxia (or inability to use articles correctly) has led to diagnosis of tumor in the corpus callosum.

14. Tumors of gasserian ganglion with their characteristic neuralgias of all three branches coming on simultaneously with involvement of the motor root.

15. Tumor originating in the cerebral peduncle distinguished by early progressive and persistent palsy of oculomotor nerve—involvement of lower and upper limbs, absence of ataxia and presence of tremor.

Thus we see the silent areas being encroached upon. To-day even more than three years ago—there are fewer purely decompressive operations and more exploratory craniotomies. In other words, I believe that the majority of brain lesions of a local character are localizable.

The recognition of the cause of choked disc and a familiarity with its earliest appearances have been most helpful factors in the diagnosis of brain conditions.

Add to this the more intelligent use of lumbar puncture and cytological examination of the removed fluid for tumor cells and evidences of syphilis and tuberculosis, the easily applied tuberculine reactions, the Wassermann test—and we find ourselves in a more intelligent frame of mind as regards matters out of sight in the head.

A year or two ago brain puncture was exploited with great enthusiasm as a diagnostic aid. I think it is fair to say that the men best qualified to judge looked askance on the method from the first, involving as it did the risk of wounding pia and cortical veins. Its use is now largely limited to association with craniotomy. Puncture is not to be done unless everything is in readiness for cranial exploration.

A warning too must be repeated as to the use of lumbar puncture in the presence of intra-cranial growths causing great pressure. A not inconsiderable number of sudden deaths from choking of the brain stem due to sudden withdrawal of spinal fluid, are now on record.

So much by way of hasty review of the means at our disposal for making a diagnosis.

Autopsy studies and the greatly increased number of exploratory surgical operations have done much toward putting brain pathology on a surer footing.

With improved technic and better knowledge of physiology, head injuries are being treated in a more scientific and successful way. We know, for example, how rapid may be the compression following intra-cranial hemorrhage. Instead of expecting a long stage of slow, bounding, high-tension pulse in every case of hemorrhage, we know that within an hour or two from the injury, the stage of Bulbar anaemia characterized by irregular, rapid, low-tension pulse and respiratory disturbances, may have been already reached. In a slower leak the changes may be gradual, of course, but we are quicker to note differences because every case from the first is followed with systematic blood pressure readings and careful ophthalmoscopic observations.

Engorgement of the retinal veins and haziness of the disc appear very early in the compression accompanying hemorrhage or edema. The electric ophthalmoscope, portable, simple and available under all conditions, has been a great boon to the surgeon. We have learned that the dangers in many early cases are principally those arising from pressure on the vital centers. In the cases with moderate hemorrhage from fracture of the base that recover, we are learning that the presence of the old blood causes distant changes that threaten health and life. It may be the origin of sub-dural or cortical cysts, adhesions, or of thickening of the dura. These conditions are fairly sure to leave their unpleasant sequelæ.

Our attention has lately been called to an interesting pressure phenomenon. Following the stage of slow, bounding pulse, we come upon a transient condition where the slow vagus pulse alternates every two or three minutes with the pulse and respiratory effects of Bulbar anæmia. This alternation, if the increase of intracranial pressure be very slow, may persist for some time. The explanation is simple. The normal variations in blood pressure or Traube-Herring waves persist. At the crest of the wave the blood pressure in the medullary arteries balances or exceeds the increased intracranial pressure, so that the vital centers are protected from starvation of blood. But as the wave of normal pressure recedes, the little nutrient vessels are collapsed and the vaso-motor center cells are put out of commission until the crest of the next Traube-Herring wave reaches them. This condition, of course, can not last long. The wide field of head injury, however, has been but little cultivated and many problems still remain to be solved.

Increasing observation of tumors of the brain has begun to give a fair idea of what we may expect in given localities.

*First:* Tumors may spring from the bones of the skull and encroach upon its contents. These may be benign (osteoma, chondroma, angioma) or malignant (sarcoma). Both sorts may give origin by their degeneration to bone cysts.

*Second:* The dura may be the source of growths. The commonest of these is an endothelioma—fairly benign—usually more or less encapsulated, and rarely infiltrating. It is one of the most satisfactory of our enemies. Following the degeneration of hemorrhages and of tumors and of so-

called serous meningitis—there may be left subdural cysts. Of course, other forms of dural tumors may occur but we oftenest expect these.

The arachnoid may develop in its spaces clear cysts, that fortunately do not recur when their tops are cut off. I have reported such a case before this society.

In the substance of the brain the glioma is the commonest tumor. It may be benign or infiltrating. It tends to undergo cystic degeneration and is liable to sudden interstitial hemorrhage. Sarcomata are not nearly so common. Fibromata, cholesteatomata, parasitic cysts, tuberculomata, gummata, dermoids, psammomata, together with the varied metastatic tumors occasionally occur.

The point of interest to us is the fact that most tumors occur in the surgically available parts of the brain, usually on the surface, and that of these the majority are absolutely or relatively benign. If one should judge by the older autopsy reports he would get an exactly opposite impression, but the published collections of modern neurological and surgical statistics substantiate the idea I have expressed.

Probably most of the cerebellar tumors reported have been benign solid tumors, tubercles, or cysts. The characteristic cerebello pontile tumor, or what used to be called the acoustic tumor, is benign, fibrous, and encapsulated, and after exposure usually allows enucleation. Sometimes they are double. Most pituitary tumors arising from the gland have been adenomata or cysts. Some malignant growths have occurred.

The question of head technic has been so widely discussed that its interest to the profession in general is but slight. Still a review of points that have proven to be of importance may not be altogether out of place here.

Urotropein, as far as clinical observations can satisfy, seems to be a valuable drug in both a prophylactic and curative role. From our present standpoint a short course of urotropein (30-60 grains a day) should precede every craniotomy and lumbar or ventricular puncture. In cases of fracture of the base or of wounds that might expose the meninges to infection, urotropein in doses of from 60 to 120 grains daily should be administered. Its chief value seems to be as a prophylactic, but its use in meningitis should not be neglected, as at least one case has apparently been cured by this agent. After a 15-grain dose the maximum concentration in the cerebro-spinal fluid occurs after a period of from one-half to one hour.

The question of anaesthesia narrows down to the old question of ether and chloroform. Horsley prefers the latter, the Germans and Americans, as a rule, ether, as being less toxic. Morphia is not used on account of its striking tendency to depress the respiratory center—a mechanism that demands most careful protection in such work.

It would seem almost an insult to your intelligence to broach the matter of asepsis before you, but more and more one is impressed that operators take too many chances; that they are lulled into a feeling of false security by tiled floors, smooth walls and plate-glass. Often the head is poorly shaved and cleaned. Too much skin is exposed and by the time the head has been lifted in position once or twice, or the anaesthetist has pulled the jaw forward, the towels are disarranged and dirty skin is uncovered. Personally, I believe that it is not beneath the surgeon's dignity to see to those most important details himself, and not to leave them to new nurses or internes.

Equally important and much more difficult is the matter of haemostasis. Rapid operating in a bloody field has no place in brain work. The skillful man has many little tricks to combat the bleeding from scalp, emissary veins, diplo, sinus prolongations, dural vessels, ruptured arterial trunks and cortical substance. Some form of head tourniquet is almost universally used; wax, wooden pegs, cotton pledgets, fine silk or china bead ligatures, hot salt and postural methods are among the methods available. When a case is a bloody one, it may tax every resource, and in spite of the most careful handling, compel a two-stage operation. Unremittent careful attention is demanded of the operator, and quick, rough work will bing its speedy revenge in some troublesome and dangerous result. It is especially important to have the field dry when the time for closure has come. The dura should be perfectly dry, as well at she bone edges and other sources of hemorrhage. The scalp should be sutured in two tiers, subcutaneous fascia, and skin. If this is carefully done the tourniquet is left in place till the whole is complete. Its removal should be followed by no bleeding. Sutures and ligatures should be of the finest possible material. Silk is generally used throughout.

The methods of turning down flaps are many, and need not be considered here. The day of small openings has passed. We do not hesitate to turn down generous flaps, being careful to see that the periosteum is not stripped from their surfaces, otherwise necrosis is invited. No exploration is complete without a wide opening of the dura. One can not see through this membrane.

Aside from these general remarks, certain operations demand special comment. In cases of increasing tension with unlocalizable lesions, or with lesions in an inaccessible position, the subtemporal decompression is the operation of choice unless the symptoms point to the subtentorial region.

This operation is simple, relieves the pressure, and provides for just the proper amount of hernia. At times it is best to make it bilateral, though as a rule it is done on the right side in right-handed persons. It exposes the speech center on the left, and if this portion of the cortex is crowded into the aperture of the skull there may be a disturbance of speech. If exigencies demand a left subtemporal decompression in a right-handed person, a bitemporal operation should be done if the brain is tense. This is a most useful operation in fracture of the base, as most fracture lines run across the middle fossa or its neighborhood, and hemorrhage is almost sure to show here. It gives access to the middle meningeal also. Of course

openings here will protect the brain from the results of pressure due to edema in any part of the cerebrum. The operation is a true grid-iron one; the skin, temporal fascia, and muscle being split and reconstructed in perpendicular planes. The dura is left wide open or excised.

Cushing has lately utilized a combination exploration and decompression flap. This allows the formation of the usual big flap. It has one leg in the temporal region where the muscle is split. If after the exploration the operator judges a decompression advisable, a piece of bone as large as necessary is removed from the lower temporal angle of the bone flap, and the corresponding area of dura is excised. The remainder of the dura is closed, the bone flap replaced and the decompressive opening protected as usual by the temporal muscle and fascia.

The technic of cerebellar operations has been gradually crystalizing till the methods are now fairly uniform. Almost the most difficult detail is that of posture. Probably that best adapted for all cases is the ventral position, with supports to the shoulders on each side to avoid embarrassing the respiration. The face may be supported by a padded ring on a support independent of the table. The ether is sprayed on a mask from below, or ether vapor is given through a tube in the nostril. The muscles are cut cleanly, and carefully preserved. No effort towards an osteoplastic flap is made. The bone over the cerebellum is sacrificed. The opening is immediately made on both sides. This is advisable, first, because cerebellar tumors are often impossible to localize as to side, and second, because a bilateral exposure permits dislocation of the brain and protects from the dangers of retraction and pressure on the medulla. This, moreover, facilitates greatly explorations of the cerebello-pontile angle. In addition to the help given by this cerebral dislocation in cases of increased tension, more may be obtained by draining off cerebro-spinal fluid, by pricking the basal cysternæ, and by concomitant lumbar puncture. Also to obtain room one should not hesitate to remove the back of the arch of the foramen magnum. The writer well remembers seeing one cerebellar death on the table from over-retraction of the cerebellum, in a hunt for an acoustic tumor. A cerebral dislocation would have avoided this catastrophe.

The technic of pituitary tumors is still in the tentative stage. Horsley has done his through temporal openings. Hochenegg and Cushing through the ethmoid cells and base. Cushing's experimental work on dogs has been done by the temporal route, utilizing the principle of cerebral dislocation by making bitemporal openings.

Von Bramann, in Halle, has just reported the result of making what he calls a "Balkan stich," or communication between the lateral ventricles and subdural space. This he utilizes in internal hydrocephalus where ordinary lumbar and ventricular puncture do not succeed in reducing the pressure or averting the advance of the choked disc. His results have been very encouraging indeed. The method consists in making an osteoplastic flap near the media line, exposing the longitudinal sinus, opening the dura, retracting one hemisphere and putting a trochar into the roof of the 3d ventricle and into the lateral ventricles. This opening is enlarged, and provides permanently the desired drainage.

My apologies are due the society for the scattered and sketchy nature of this communication. I have endeavored to indicate advances here and there, rather than to be complete in any one department.

In conclusion, I should like to report the following cases:

Extradural abscess of the base of the brain, following septic pneumonia, and communicating with the exterior by a fistula, opening through the supra-orbital plate and upper eyelid. Death due to sudden increase of tension. Exploratory craniotomy. Decompression. Autopsy.

Case 1. Patient is a man, age 38. He, for about 15 years, has suffered from the results of an old burn on the leg. During much of this time the wound has suppurated. He has undergone various skin grafts, the last one being about 4 months ago. This operation was followed by infection of the superficial veins of the leg, and in a few days by pneumonia.

Soon after his recovery from pneumonia, headache set in; the pain lasted for a month, becoming more and more intense. Then there appeared an abscess which pointed through the lid of the right eye. On several occasions this has been opened and drained, but has never healed. Meanwhile he has had occasional headaches of a very severe type.

Two weeks before admission to the hospital, under the impression that the pain was caused by empyema of the frontal sinuses, Dr. Cone explored the sinuses, with negative result, and this wound has since healed. Two days before admission, his general condition suddenly became worse; he developed vomiting, intense headaches, slow pulse, and a double-choked disc. The sinus over the eye discharged more than usually.

Examination Mt. Zion Hospital, July 27th, 1909. Patient was seen in hospital with Drs. Waller, Moffitt and Cone. Patient is lying in bed in a stupor; heavy sterterous breathing; pulse ranging from 40 to 60 in a minute. He is having some vomiting of a rather projectile type. He is able to move all his extremities, but the left arm is, possibly, more inert than the right. As far as can be ascertained, there has been no disturbance in sensation. The knee jerks are absent, and the epigastric reflexes are diminished, especially on the left side. The other reflexes are normal. No disturbances of the cranial nerves. Just above the right eyeball there is a sinus which exudes a dark, yellowish pus. There is about three degrees of fever, and a leucocytosis of 18000.

Operation on the same day. A tourniquet was applied about the head. A horseshoe-shaped skin flap, with its base in the right temporal region, and its extremity almost reaching to the longitudinal sinus, was cut. Its outlines would include most of the frontal lobe and the anterior portion of the parietal and temporal lobes. The posterior extremity of this flap corresponded to about the fissure of Roland. The two usual trephine openings were made at the superior angles; the dura was freed, and the skull divided with the Gigli saw. The lateral incisions were made by the Devillbis forceps. The bone was then broken down, and the rough, extremely tense, non-pulsating dura exposed. This was wide-

ly opened, allowing the brain to bulge tremendously. Multiple punctures, with small trocar, failed to reveal the presence of pus. The dura was left opened, the bone flap replaced after part of its lower pedicle had been cut away to allow for decompression. The temporal muscle was sutured with fine silk, the scalp was united with interrupted sutures of the same material. The wound was dressed with silver foil. There had been very little bleeding up to this time. When the tourniquet was removed, there was some sharp bleeding from the skin edges. These points were controlled with additional sutures. The patient's pulse which had been 48 at beginning of operation, had risen to 120 after the opening of the dura. Patient was taken back to the ward. During the night there was abundant oozing which saturated the dressing.

**Note, July 28th, 9 a. m.** Patient passed fairly comfortable night and seems bright and improved, but this morning has again become stuporous, though the pulse stays at 100, and shows no signs of increased tension. He has vomited several times. Left arm seems partly paralyzed. Dressings were all removed, and there seems to be no undue bulging of the flap, though it is definitely raised. It seems likely that there is haematomia in the flap.

Lumbar puncture was performed, and about 60 cc of slightly bloody, but otherwise clear fluid, withdrawn. This relieved somewhat the stupid condition of the patient.

**Note, July 28th, 4:30 p. m.** Patient has had increasing pressure signs, and a complete left hemiplegia. Pulse is of a poor quality, and rapid. He was taken to the operating room, and flap turned down. There is considerable clotted blood over the brain, and a great hernial protrusion of the cortex. Flap resutured.

**Note, July 29.** Patient died this morning at 8 o'clock. Autopsy show abscess of the base of the brain, communicating by a fistulous tract with the right orbit, by means of the perforation of the right supra-orbital plate. The abscess is rather diffuse, but is continued to the middle and posterior fossae, and extends for an indefinite distance down the spinal canal. Pus is thick, and yellowish green. The only other lesion is a small abscess of the posterior mediastinum.

Jacksonian epilepsy, due to subcortical tumor occupying the motor and sensory areas of the left hand. Excision of the tumor, which was benign, followed by recovery.

Case 2. G. C., age 25. American sailor. Admitted to the University Hospital July 9th, 1909, discharged August 6th, 1909.

Complaint: Epileptic fits. Family history, negative. When 14 years of age was struck on the head with an iron bar. He was knocked unconscious for several minutes, and lost the power of speech, which was not regained for several months. Patient had gonorrhea once; denies lues. He drinks to excess. In October, 1907, after an alcoholic debauch, he was suddenly seized with his first attack. The fingers of the left hand were first involved in spastic, athetoid movements, then the arm and the whole left upper extremity participated. Intense pain appeared in the hand and forearm. He became unconscious, cried out, bit the tongue, etc. There was no aura; the attack lasted 6 minutes. The second attack followed four months after the first. The attacks have been increasing in frequency ever since. They vary in severity, from slight sensory and motor irritation of fingers of left hand, to general convulsions, accompanied by unconsciousness.

Five months ago, a button of bone was removed from the upper part of the right parietal bone. The dura was not opened. No relief followed this operation. The attacks have been frequent since he has been in the hospital; several some days. Examination reveals some loss of power in the left hand, together with diminution of touch, pain and temperature senses over fingers of left hand. There is slight, but definite asteryognosis of left hand. The condition points clearly to a lesion of both motor and sensory left-hand areas. The sterygnostic centre is known to occupy the sensory cortex in the hand area.

**Operation, July 20th, 1909.** Exploratory cranitory and removal of subcortical tumor. The exploration was conducted through a large flap. The anterior and posterior central convolutions were widened to double their size, and a hard mass could be felt under the surface of the brain. Cortex was incised, and tumor removed by blunt dissection. It was about one cm deep, and measured about 1½ by 3 cms. It was hard, poorly encapsulated, and fibrous. Patient recovered quickly from the operation, and barring two or three attacks on the day following operation, had no other attacks up to the time of his discharge. He left as mate of a vessel going to Tahiti. Dr. Lee reported the tumor to be a benign, fibrous one, possibly an old scar. A letter from the patient during the last few days reports three epileptic attacks of moderate grade since his operation.

Case 3. Mrs. L. Gunshot wound of the brain, accompanied with extradural and subdural hemorrhage. Subtemporal decompression. Recovery.

Admitted to the Central Emergency Hospital, 6 p. m., Sept. 12th, 1909, with a history of having been shot in the head two hours before.

When patient was seen, she was bleeding profusely from the wound of entrance of the bullet in left cheek, and from the wound of exit near the vertex of the skull on the right side. She was also bleeding from the nose. The alveolar process in the left side of the lower jaw has been loosened for about an inch; the loose piece contained three teeth. The bullet had passed from the hard palate through the posterior nares. The right eye bulged tremendously, the lid was black, the pupil fixed and dilated. Patient was irrational, but could be aroused by pain sensations. The left side of the body was slightly paretic, and the reflexes on the left exaggerated. The pulse was between 40 to 50 to the minute, and during the examination she several times vomited a large amount of dark blood, mixed with particles of food. The head was shaved, and she was prepared for immediate operation.

Under ether narcosis, a typical right subtemporal decompression was done. There were extensive linear fractures in the skull in the region of the wound of exit. A large button of bone was removed under the temporal muscle. This opening was enlarged and allowed the escape of a large quantity of blood which had been compressing the brain. This was followed by immediate rise of the patient's pulse, and improvement in the respiration The dura was then opened, and from under it there also escaped considerable dark blood. The brain itself was infiltrated. No attempt was made to close the dura. The rest of the wound was closed as usual with fine black silk. A small drain was conducted to the wound of exit.

**Sept. 13th, 8 a. m.** Patient's pressure symptoms were relieved by operation, to a large extent. There has been profuse seepage of blood during the night. Patient has taken large quantities of salt sol. by rectum, and was infused this morning. Paralysis on the left side seems completely cleared up. Patient is conscious, though irrational. The pulse varies from 100 to 112; respiration, regular. She has had a normal sleep. Condition of the right eye is unchanged; she vomited some during the night,

but has taken this morning water, and is being given Urotropin.

**Sept. 15th.** Patient has been removed to Trinity Hospital. The operation wound has healed per primam. Considerable broken down brain tissue has been extruded through the wound of exit, together with a little cerebro spinal fluid. There is still slight paresis in the left side. Babinski on left; reflexes depressed.

Patient is conscious, presents no signs of meningitis, but has some irregular fever. Vision in the left eye, good. Dr. Frederick, occulist, reported a thrombosis of a cavernous sinus on the right side. This eye is of course blind. Patient has constantly been given large doses of Urotropin, the dosage at first being 120 grains a day, later on, more. The fever has gradually subsided, and it is apparent that any local meningitis that may have been present has cleared up. From this time on she made an uneventful recovery, with the exception that a sinus presented at the wound of exit of the bullet. About a month after her first operation, the skull was explored in this region. Nitrous oxide gas was used. A number of pieces of dead bone were removed. This wound has since healed.

## THE PRESENT STATUS OF THE OSMIC ACID TREATMENT OF NEURALGIA.

By T. C. McCLEAVE, M. D., Berkeley.

Two years ago I reported before this Society a case of trigeminal neuralgia treated by intraneural injections of osmic acid (1). Murphy (2) had just previously (1903) redirected attention to this method of treatment as advocated in 1899 by Bennett of London (3), reporting some seven cases, and my case was, I believe, the first so treated on this Coast.

Since then the lapse of time and the reports of additional cases, together with the experimental work of Murphy (4) and, more recently, Eastman (5), have afforded opportunity for somewhat adequately estimating the value of the operation. Reviewing briefly, the history of my case was that of a woman fifty-six years old, who had suffered for thirteen years with bilateral tic douloureux of the most severe type, the paroxysms being, however, more acute upon the right side. The occurrence of the disease bilaterally was ascribed to a spinal origin, as certain disturbances of the reflexes were also observed, a point of considerable interest in estimating the effect of local treatment.

This patient had been treated by numerous able physicians, all the usual medical measures having been tried, and two nerve-cutting operations having been done, with but temporary relief. She came under my care December 20, 1903. Her condition at that time was distressing in the extreme. She was weak and emaciated from inability to eat and loss of sleep, and tortured by pain so severe as to require almost lethal doses of morphin to control it.

I first operated upon her on January 13, 1904, injecting the nerves on the right side in the usual manner. The operation was followed by almost immediate and complete anesthesia of the area supplied by the supraorbital branch, but prompt return of pain in the other branches. Second operation January 29, 1904. Through a larger incision it was then seen that the infraorbital nerve injected at the first operation was but one of a number emerging through a bony slit and uniting to form a tortuous mass the size of a small marble, from which numerous larger and smaller nerves radiated downward into the tissues of the cheek. These were injected and cut and the mass removed. A trephine opening was then made in the ramus of the jaw, and through this the greatly hypertrophied inferior dental nerve was injected distally and proximally and about three-quarters of an inch of the nerve trunk was excised. This operation was followed by practical freedom from pain on that side for almost a year, except for some local irritability in the cheek where some small branch had probably escaped attention. Severe paroxysms affecting chiefly the infraorbital branch, then recurred.

A third operation was done on April 26, 1905, the infra and supraorbital and the inferior dental branches on the left side being exposed, as described above, and injected. The right cheek was also again exposed and several small nerves found to have regenerated, which were injected. This operation gave relief for some few months only, when the paroxysms recurred, very much reduced, however, in intensity and frequency.

As a result of the three operations the patient has been afforded long periods of relief, and a considerable mitigation in the severity of her now infrequent paroxysms as compared with the pain previously experienced almost continuously. The improvement in her general condition which followed the second operation has been maintained to a large degree, and she is now in fair health. It is therefore fair to say that the osmic acid method accomplished far more in this case than any of the other forms of treatment to which the patient had been subjected. (Note: August 1, 1906. The attacks of pain are becoming more frequent, but not quite so severe as formerly. Complete recurrence is anticipated.)

Dr. Sherman and Dr. Barbat have each treated a number of cases with osmic acid, and I am indebted to them for permission to refer to their results.

Dr. Sherman's cases.—Total number, 6 (trigeminal neuralgia).

No. 1. Operated on 15 months ago; recent recurrence (trigeminal).

No. 2. Operated on 9 months ago; no recurrence (trigeminal).

No. 3. Operated on 6 months ago; no recurrence (trigeminal).

No. 4. Operated on 6 months ago; no recurrence (trigeminal).

No. 5. Operated on 3 months ago; no recurrence (trigeminal).

No. 6. A recent case, with relief from pain after three operations (trigeminal).

Dr. Barbat's cases.—Total number (trigeminal, 3; intercostal, 3).

No. 1. Operated on 15 months ago; no recurrence (trigeminal).

No. 2. Operated on 8 months ago; no recurrence (trigeminal).

No. 3. Operated on 8 months ago; recurrence probably due to pressure of aortic aneurism (intercostal, 3 nerves).

No. 4. Operated on 8 months ago; no recurrence (intercostal).

No. 5. Operated on 7 months ago; no recurrence (intercostal).

No. 6. Operated on 2½ months ago; no recurrence (trigeminal).

Bennett (3), Murphy (2-4), Wright (6), and recently Eastman (5), have reported a considerable

number of cases of neuralgias of various nerves treated by the osmic acid method. Their results have not of course been uniform, but on the whole a very large percentage of the patients have been relieved of their pain for long periods of time, the relief in many cases being apparently of longer duration than nerve cutting or stretching operations might have been expected to afford, these measures having previously failed in many instances.

Murphy (4) and Eastman (5) have each reported the results of experimental investigations as to the effect of osmic acid on nerve tissues, which may be briefly summarized by stating that the changes observed were very slight, except for the disintegration of the perineural fat and fatty myelin substance when brought in contact with the acid. No progressive degenerative changes were noted, and only slight inflammatory processes in the nerve fibres themselves. The experimental findings then offer no reason for theoretically considering osmic acid an efficient agent so far as permanency of cure is concerned.

Clinically, however, the results obtained have very largely been excellent, and as the operation is simple and devoid of danger, this method should have the preference over any other until its failure in any given case be demonstrated. The operation can be repeatedly done if necessary. It is of interest that the injection of alcohol about the points of exit of the nerves has recently been said to afford relief of long duration in cases of tic (7).

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## A CRITICAL REVIEW—THE OCCURRENCE AND SIGNIFICANCE OF THE BOAS-OPPLER BACILLUS IN THE STOOLS IN CARCINOMA OF THE STOMACH.

By H. W. ALLEN, M. D., San Francisco.

The occurrence and significance of the Boas-Oppler bacillus, also known as the long bacillus and the lactic acid bacillus, in the stomach content in gastric affections has been a subject for discussion and dispute since the original publications by Boas [1] and by Oppler [2] in 1895. On the one hand are many authorities who attach very slight importance to this organism and in whose writings it receives very scant mention; on the other are those who consider it of the greatest importance in the recognition of malignant gastric affections. In the past few years several careful studies of this bacillus have been made and fairly definite conclusions regarding its occurrence in various gastric diseases have been reached. Sick [3] has made an extensive study and comes to the conclusion that the long bacillus cannot be utilized for the early diagnosis of carcinoma of the stomach since it occurs also in other gastric diseases; he considers, however, that it causes lactic acid fermentation only in the presence of an ulcerating carcinoma.

Fricker [4] also finds the long bacillus in gastric diseases other than carcinoma but only in very small numbers and unassociated with lactic acid. In all cases where the condition of diminished or absent hydrochloric acid was associated with disturbed motility (retention) he constantly found a marked increase in the number of lactic acid bacilli associated with considerable quantities of lactic acid. He has also found these bacilli in an oesophageal diverticulum and considers that the normal habitat of the organism is the mouth from whence it gains access to the stomach and intestines, there to multiply when conditions are favorable.

Tabora [5] emphasizes the importance for early diagnosis of finding in the stomach content very small particles of blood clot in which are included large numbers of Boas-Oppler bacilli. It has been shown that these organisms grow best in media smeared with fresh blood, which explains their abundance in the clots. Tabora considers such a finding one of the earliest signs of carcinoma of the lesser curvature.

From these and other studies the conclusion seems fair that the presence in gastric contents of decided numbers of Boas-Oppler bacilli is a point strongly in favor of the diagnosis of carcinoma. Inasmuch as the passage of the stomach tube is sometimes contraindicated or attended with decided difficulties it has been suggested that a microscopical examination of the intestinal flora might aid in the recognition of carcinoma of the stomach.

To R. Schmidt [6] seems to belong the credit for first demonstrating a decided change in the fecal bacteria in a case of gastric carcinoma. In 1903 before the Wiener Medizinischer Gesellschaft he showed slides from a case of gastric hemorrhage where the original diagnosis of ulcer was changed to carcinoma because of the presence in the feces of large numbers of lactic acid bacilli. In 1906 Schmidt [7] published a study of the bacterial flora of the stomach and intestines in various gastric affections, in which he showed that under certain obscure conditions such as are afforded by carcinoma of the stomach it is possible for the Boas-Oppler bacillus to survive in its passage through the intestinal canal and be recognized in the feces both by cultural and staining methods. While cultures are preferable for the demonstration of the organism yet Schmidt considers that after one has had experience, judgment can safely be based on the morphological appearance and staining reactions. He emphasizes the following points: thin bacilli of varying length but predominantly long; without spores and non-motile; Gram positive but often showing partially Gram negative areas.

Extensive studies of film preparations of stools stained by the Gram method have shown that in health and also in most disease conditions the feces are essentially "Gram negative"; that is, aside from the Gram positive cocci very few Gram positive organisms occur. McNeal, Latzer and Kerr [8] in a recent elaborate study of fecal bacteria estimate that normally the Gram negative organisms vary from 63% to 97% of all intestinal bacteria; while the Gram positive bacilli run from 1.4% to 34%. Usually low figures were obtained for the latter

class; they seldom reached over 10% and averaged from 4% to 7%.

Schmidt in his paper recognizes three types of what he calls Gram positive stools: I. Lactic acid bacillus type. The predominating organisms in this class have the characteristics of the Boas-Oppler bacillus as described above. The finding of these bacilli in the stools has the same significance as their occurrence in numbers in the stomach content; that is, in the majority of cases they are associated with gastric carcinoma. Only once did Schmidt find a Gram positive stool of this type in a purely intestinal trouble. II. Pseudocolon bacillus type. This, as the name implies, is characterized by the presence of an organism having the general morphology of the colon bacillus but staining by Gram. Such a picture Schmidt found chiefly in varying intestinal disturbances. III. Thread-like type with organisms showing the so-called granulose reaction when treated with iodin solution.

While he gives no definite figures Schmidt emphasizes the frequent occurrence of type I Gram positive stools in carcinoma of the stomach and its absence in other conditions. He mentions its value in distinguishing between pernicious anemia and gastric cancer and advocates the use of this method of diagnosis when for any reason stomach analysis is not convenient.

Following up Schmidt's work Elliott [9] in 1906 published a report of 25 patients whose stools were examined by the Gram method of staining. Of these 18 were negative and 7 positive. Of these 7, 6 were proven either at operation or autopsy to be cases of carcinoma of the stomach. One was an instance of acute ulcer. Among the negative cases there was only one of gastric cancer. Elliott concludes that while a Gram positive stool (type I) is not pathognomonic of carcinoma of the stomach yet it occurs very frequently in this condition and is a sign that may be used to an advantage in establishing a diagnosis of carcinoma.

Very recently Brown [10] has again drawn attention to the value of Gram positive stools (type I) in diagnosis and mentions 4 cases where positive findings were of decided aid to him.

In the past 2 years the reviewer has employed the Gram stain as a routine measure in practically all stool examinations in suspected gastric and intestinal affections. The results have been classified as Gram positive or negative according as organisms corresponding to the morphology of the Boas-Oppler bacillus were present or not. That is, though the specimen might abound in Gram positive organisms, unless some of these conformed to the lactic acid type it was classed as negative.

Sixteen specimens were classed as positive at the first examination but of these, two were subsequently put in the negative class as the flora had definitely changed. Of the remaining 14, 7 have been proven at either autopsy or operation to be cases of carcinoma of the stomach. Of the other 7, 6 were perfectly typical cases clinically of carcinoma and of these at least 4 have proved fatal, thereby in a measure confirming the diagnosis. The remaining case is still alive after about 2 years and it is doubtful if the diagnosis is carcinoma. In this latter case only one specimen was examined and that at the very beginning of the work and it is possible that later examinations might have altered its classification.

In no instance has a recognized case of carcinoma of the stomach had a Gram negative stool. An accurate record of all the negative cases has not been kept but among them were instances of carcinoma of the oesophagus, pancreas and intestine; achylia gastrica; acute and chronic gastric ulcer; pernicious anemia; cirrhosis and syphilis of the liver; various types of enteritis and colitis. In several instances the findings, both positive and negative, have proven of very decided value in diagnosis.

The number of lactic acid bacilli present in the stools may vary considerably. In typical cases they are abundant and give to the specimen a decidedly Gram positive appearance. In some instances, however, their number is relatively small and they may be greatly outnumbered by Gram negative elements. Nevertheless the fact that organisms corresponding to the Boas-Oppler bacillus are present serves to put the specimen in the positive class. The contrast between the picture presented by smears from normay and from carcinomatous individuals is ordinarily very striking and one usually has little hesitancy in deciding to which class the specimen belongs. At times though one is in some doubt particularly when lactic acid bacilli are few in number or when the positive organisms partake of the characteristics of type II. Ordinarily one examination is sufficient but in doubtful cases additional specimens should be observed.

Only a few instances of Gram positive stools of type II were encountered and no special diagnostic importance could be attached to them. No examples of type III were seen.

Objection may be and has been raised that morphological and staining characteristics are insufficient for the accurate recognition of the lactic acid bacillus. To overcome this objection cultural methods may be resorted to. The organism grows readily on certain media, the chief difficulty being to obtain it in a state of camparative purity so that other bacteria do not overgrow it. Sandberg [11], finds that by mixing small quantities of feces with gastric juice which has been sterilized with chloroform and allowing it to stand for 24 to 48 hours the vast majority of the organisms originally present are killed or rendered incapable of growth while the lactic acid bacillus survives and can be cultivated on glucose agar media.

Rodella [12] has also written extensively on the cultivation of these organisms from the stools.

The technic of the staining method is very simple. The smears of the stool are made either on slide or cover slip and are fixed by heat or as suggested by Elliott by immersion in methyl alcohol for 5 minutes. They are then stained by the well known

Gram method using dilute carbol fuchsin as a counter stain.

From the constancy of positive results in carcinoma of the stomach and of negative findings in other conditions it would seem that this simple laboratory procedure should be used as a routine in the examination of all suspicious gastric conditions.

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## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

### *Zoology and Medicine.*

Medical Zoology is rapidly coming to its own. Since the recognition of specific causes of disease bacteriology was the first to ally itself with clinical medicine and for a time threatened to divide the field with the pathologist. But there has been and still is an increasingly significant tendency to admit and study the effects of animal organisms in disease with the same thoroughness with which bacterial affections are observed. A considerable part of this is to be credited to students of tropical medicine. Portions of protozoology, formerly regarded as an academical science, helminthology, long looked upon as a distinct and isolated branch of natural history, and entomology, which was for centuries tolerated as a hobby of dilettantes, have gradually become coordinated into a logical science which touches and explains a goodly fraction of the important diseases of mankind. This study should be taught systematically and thoroughly in every medical school in the country instead of being touched upon in a desultory manner by the bacteriologist, pathologist or clinician.

### *Leprosy in California.*

During several months' study of a small group of lepers at the Alameda County Infirmary the writer has become much interested concerning the presence among us of this (to the pathologist) most fascinating of all diseases with the possible exception of syphilis. The invasion by the germ of all the tissues except the muscles, coupled with the comparative immunity of the vital organs, produces a remarkable disease picture. This was strikingly exemplified in an advanced case which came to autopsy last week. We have recently seen a leper on the streets of Oakland and Dr. Thomas J. Clark reports having noticed two or three more. Dr. Martin H. Fischer has called our attention to a case occurring at Livermore in a white man who had never been abroad. We should be glad to get further reports of the existence of the disease in the State.

### *Our Small Rodents.*

The carrying by rats and mice of other diseases besides bubonic plague, to say nothing of the enormous economic loss occasioned by their destructive habits, constitutes a perfectly sufficient reason for all the effort and expense incurred in the extermination of these pests. In addition to harboring several kinds of entozoa which may affect man (*Trichinella, Hymenolepis, Taenia,* etc.,) it is now claimed by Barabaschi (*Gaz. d. Osp. e d. Clin.*, 1909, p. 1417 f.) that various pathogenic bacteria such as pneumococcus, bacillus of anthrax, streptococci, etc., are disseminated by these animals (mice). A recent monograph on the rat gives a long and impressive list of the economic, hygienic and other sins of that mammal. Medically speaking, in addition to hydrophobia we have a special and sometimes fatal disease due to rat-bite described from Japan (*Mitteil. a. d. Grenzgeb. d. Med. u. Chir.*, 1900, p. 231 f.) If space permitted some disconcerting things might also be said regarding the protozoan and arthropod guests of domestic rodents, but enough has been predicated to show our sympathy with the aims of the Society for the Destruction of Vermin.

### *Hookworm Among Us.*

The first conference on the eradication of hookworm will meet in Atlanta, Georgia, this month. Several cases of this disease have been reported from this State to the writer, and through the kindness of Dr. W. A. Clark, Superintendent of the Alameda County Infirmary, we have had opportunity of keeping an instance of severe infection under careful observation recently. One of the endemic centers of the disease seems to be the Sandwich Islands, and former residents of that territory are constantly introducing the worm into California. We hope that further reports of cases will be sent in. It is especially important to have information from rural districts and small towns.

### *A Suggestion.*

Some of the physicians have been good enough to take a part in this department and have kindly reported their observations and cases of tropical disease. It is hoped that this activity may grow and widen and that the medical men, not alone of the bay cities but of the entire State, may take up the

matter of focusing the interest regarding tropical medicine in these columns. We should especially like to hear more from the southern part of the State. May we suggest that every physician who meets with an instructive case communicate with us? There is no doubt but that every reader of the JOURNAL who is interested in scientific medicine will greatly appreciate such information.

## DERMATITIS FACTITIA IN A PATIENT WITH PRURITUS GENERALIS—A CASE REPORT.

By HARRY E. ALDERSON, M. D., San Francisco.

This condition is uncommon enough to warrant the reporting of cases, and the following is an account of one recently seen in the practice of the writer, presenting some peculiar features.

Mrs. X. Age 62+. Widow. Vocation: At present she devotes all her time to the relief of her symptoms. She formerly conducted a fake medical institute. She is poorly nourished, very nervous and a pronounced hypochondriac. She has had pruritus generalis, formication being a marked feature, for four years. She states that the excitement during the great fire in San Francisco and the trying times following were responsible for its onset. She cherishes the interesting theory that her "system is full of a gritty substance which is gradually working its way through the skin where it causes intolerable crawling sensations, etc." To "capture" these grains, she gouges out a piece of epidermis at the proper psychological moment and is rewarded by instant relief, whereupon she awaits with poised thumb, the appearance of this sensation elsewhere and then promptly scoops out more epidermis. This performance occurs daily. The superficial lacerations that she thus induces are of about the width of her thumb nail and from one-half to one-inch or more long. They are usually straight in their direction; but often form slight curves. She always immediately cleanses the wound and so it soon crusts over and heals. A white, faintly marked, permanent scar, surrounded by a narrow zone of dark pigmentation, results. This pigmentation is an interesting feature and is probably due to the fact that the pigment cells are naturally in a state of increased activity at her age (62+), and also that they are often very active in itching dermatoses where there is much rubbing or scratching. Her body is covered with these scars, so that hardly any space is left for new lesions.

She is improving very much under suggestive treatment and the following medication: Strontium bromide (gr. 10) every four hours, and tincture rhei every three or four days; also a lotion composed of liquor carbonis detergens, zinc oxide, calamine, liquor calcis, and oleum amygdal. dulc. She is gradually learning to rub this on in place of the destructive scoop with her thumb nail.

This patient presents a condition allied to acarophobia, the usual accompaniment of pruritus senilis. Instead of imagining that the sensations are due to parasites, however, she blames "migratory grains of sand" for her trouble. The universality of the symptoms and the fact that they occur the same throughout the year, are rather unusual features. The patient's skin is fine and delicate, but rather dry. Very little evidence of senile degeneration, aside from thinness and dryness, is apparent, and so one usually finds the skin to be in pruritus senilis.

The foregoing record well illustrates the importance of avoiding haste in making a diagnosis. Without carefully examining and investigating this case, one could easily go astray in naming the disease. The peculiar white scars, with surrounding zones of pigmentation, might be very misleading in the absence of any history or general observation of the patient.

(Patient exhibited before the University of California Medical Alumni Association.)

## SOCIETY REPORTS

### SONOMA COUNTY.

Regular meeting, Petaluma, Jan. 7, 1910.

1. Address, President S. Z. Peoples, "The Plans and Aspirations of Our Society for 1910."

After briefly reviewing the history and work of the Society, he expressed himself briefly as follows:

That if our Society accomplished nothing more than getting its members better acquainted, it would serve a useful purpose. That we expect and hope to have at each meeting in the current year some live practical subject for consideration and clinical material whenever possible and that the entire membership shall freely enter into the discussion. That our county fee bill should be supported at least as to a minimum charge, and that our bills when presented bear not less than this minimum charge. That every eligible physician in the county should be induced to join the Society.

"I wish to advocate here what has been suggested before but never put into action, the organization of the physicians of each community into a local society." Their sphere of action to be, to fix distance fees to certain well known landmarks, deal with questions arising with the local pharmacists, matters of sanitation, public health, etc. "I wish to remind you right here, of our duty in reporting contagious diseases and births to the proper authorities. We should not allow ourselves to be reminded of these duties by arrests made for neglecting them. Let us endeavor to eliminate 'deadbeats' as much as possible from our service, compiling a 'blacklist' if necessary."

That we consider the attitude of local pharmacists toward the profession, and possibly meet with them for the consideration of matters of mutual interest and probably send a circular letter to all the druggists of the county defining our attitude in our relations with them.

"Let us devote more attention to the commercial end of our business."

"Stand together for mutual protection and advancement of the profession and keep in mind that a kind act or a kind word for a brother practitioner will profit you more than unfair criticism and disparagement of another."

2. Paper—Dr. Marion B. McAulay. Appendicitis. After briefly referring to the attention this subject has and is receiving in all fields of medical work and literature and briefly relating its historical significance, the doctor presented the following points notably among others:

Above all things success in handling and curing appendicitis at the present time lies in making "a quick and acurate diagnosis, for without relation to present signs and symptoms a case may result in rupture within one hour." Refers briefly to the anatomical position and relations of the appendix and the difference in opinion among well known surgeons and anatomists, giving as her personal

opinion that though many authorities describe the organ as being curled upon itself that the curling of the organ is due to adhesions and the formation of constriction bands as the result of inflammatory processes. Briefly notes the manner of classifying different inflammatory processes of the appendix. Calls particular attention to the fact that the same etiological conditions may be found here as elsewhere in the body with the same causal agents. More frequently here than elsewhere, due to the proximity of the intestinal canal; the injecting agent is b. coli comunis, and most infections arise from the mucous lining. The appendix being a blind sack, when inflammatory processes arise within it tumefaction at the proximal end closes its only outlet. Then, by the accumulation of pus and serum the sack is distended and goes on to rupture or gangrene with localized peritonitis which may become diffuse or by the adhesion of adjacent portions of the peritoneum may form a walled-in abscess. This train of events has given two methods of treatment: Immediate operation to prevent rupture and peritonitis or: Expectant to allow time for the formation of a walled-in abscess.

There is a classical symptom complex for appendicitis, but to obtain results one cannot wait for this classical picture to make a diagnosis for any one or more of these symptoms may be lacking. A sudden decrease in temperature with a rise in the pulse rate and a cessation of the subjective symptoms must be treated with suspicion. Medical treatment consists in rest and the application of heat or cold applications. Ice if the temperature is high and heat if there is much pain. Dr. McAulay does not know any reason why water should be withheld and rather encourages its use. Advises the use of castor oil repeated as frequently as necessary, using also high enemata of saline solution, soapsuds, milk and molasses or epsom salts three times daily. With frequent enemata, patients who have been very constipated will pass large masses of feces, followed by quantities of scybala and finally mucus and pus. Prefers operation in every case, because a positive diagnosis of the condition of the appendix can be made only by seeing the organ itself. In case of ruptured appendix the Mayos recommend doing all that is possible in ten minutes and completing at a subsequent operation, thus saving the patient from the effects of a long continued anesthetic. Dr. McAulay does not agree with this method of procedure, except when the patient is in extremis. She prefers to remove all that is offending at the first operation. The doctor recommends Dr. O'Brien's method of carefully sponging out the abscess cavity, disturbing the surrounding structures as little as possible, by slowly and carefully inserting sponges on long sponge holders until the bottom of the cavity is reached and the diseased area exposed for operative procedure. On first opening the abscess the walled-in pus is allowed to well out until a clear field is left for further procedure. Finally closing the wound leaving a drain which reaches to the bottom of the cavity.

Prognosis: There are no statistics offered for unoperated cases while less than 1% recover with late operation. The deaths result from both delay and sepsis. Out of 25 cases operated Dr. McAulay reports no deaths.

"Operation is simple and safe in uncomplicated cases, convalescence is short and cure certain, while after the appendix has ruptured the patient is not in condition for an easy operation or a long convalescence."

3. Operative Technique (in conjunction with Dr. McAulay's paper). Dr. J. T. O'Brien.

The classical gridiron incision is ideal when we are positive there is no pus. But this route gives room for only two fingers to enter and insufficient room in which to operate. So it is often necessary to extend the incision into the sheath of the rectus, often finding the epigastric artery in the way. As a consequence he prefers an oblique incision through the linea semilunaris. The gridiron incision, after the operation allows the tissues to resume their normal positions and relations, even being proof against injury during post operative vomiting, but is at the same time a hindrance to easy drainage. If the semilunar line cannot be found there is no harm done by going through the right rectus itself, provided the two layers of fascia are found and secured upon sewing up the abdomen.

The treatment of the appendix must depend upon the condition in which it is found. If ready to rupture clamp it with two clamps and cut between, always carefully ligating the mesoappendix. Treat the stump with carbolic acid and return the cecum to the peritoneal cavity. If there is time a purse string suture may be drawn about the base of the appendix, but this is not essential. There is some danger that clamping the appendix alone will not obliterate all its vessels and hemorrhage may result. Usually treatment with carbolic acid and alcohol are sufficient to prevent this. Always remove the appendix if possible and as early as possible after a diagnosis of appendicitis is made. In sewing up the wound use plain catgut for the peritoneum, chrome gut for the fascia and silkworm gut for the skin. If haste is necessary, use through and through silkworm gut. If there is much fat in the areolar tissue of the skin, make wide stitches, as the fat between the sutures will atrophy and the skin would otherwise pull out leaving a broad, unsightly scar.

**Discussion.**

Dr. Bonar. Why do you use silkworm gut in the skin?

Dr. O'Brien. For their strength and the fact that I believe they can be sterilized and do not become a culture medium for bacteria.

Dr. Briggs. Do you irrigate the peritoneal cavity with salt solution?

Dr. O'Brien. No, but I use normal salt enemata for stimulation and also because by so doing I find my patients suffer less from thirst.

Dr. Temple. Large sponges are used to protect the rest of the peritoneal cavity from contamination?

Dr. McAulay. We believe the introduction of large sponges irritates the peritoneum covering the bowels and adds to the shock, and also that it is not necessary if careful technic is employed in using sponges on sponge holders.

Adjourned to meet in Cloverdale in February.

JACKSON TEMPLE,
Secretary.

## BOOK REVIEWS

**Medical Gynecology.** By S. W. Bandler, M. D. Publishers, W. B. Saunders Co. 1909.

The second edition of Dr. Bandler's text-book of Medical Gynecology appearing, as it does, so shortly after the first, one would hardly look for many changes—the only new feature being the introduction of Dr. Head's surface markings as an aid to diagnosis.

The author covers the subject in a very thorough manner, the chapters on Gonorrhea and Hydrotherapy in particular being well done. Repetitions however are far too numerous and the volume could be materially reduced, adding much to the comfort of the student. W. G. M.

**Diseases of the Skin and the Eruptive Fevers.** By Jay F. Schamberg, M. D. Publishers, W. B. Saunders Co., Philadelphia. 1908.

This small book briefly and accurately outlines the modern conception of dermatology and rather fully describes the cutaneous symptoms of the exanthemata, the latter feature being of special importance and value. In the words of the author:

"Dermatology in its broad and true sense embraces a consideration of all morbid processes that are characterized by cutaneous manifestations." In his usual dignified, scholarly style Schamberg presents a work that is pleasing to read as well as instructive. His wide experience enables him to write authoritatively upon the subject. The book is well indexed, and the text well arranged. It is disappointing, however, to find in the chapter on syphilis, no mention of the Wassermann serum-reaction test or its modifications, the value of which procedure is now generally recognized.

The consideration of the various cutaneous diseases is presented in a concise manner and the illustrations (black and white) are exceptionally good. For the section pertaining to the exanthemata, the author has drawn freely from his work on "Acute Contagious Diseases," (written in collaboration with Welch).

In addition to the usual exanthemata he has described the accidental eruptions that occur in certain other diseases (typhoid, typhus, epidemic cerebro-spinal meningitis, influenza, malaria, rheumatic fever, dengue, miliary fever, angina and tonsilitis).

To one desiring a small reference book, concise and instructive, this volume can be well recommended. H. E. A.

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**Practical Points in the Use of X-Ray and High-Frequency Currents.** By Aspinwall Judd, M. D. Publishers, Rebman Co., New York.

This small book of 185 pages contains a preface which states that the book is intended expressly for the general practitioner who finds himself hopelessly at sea in beginning this kind of work. It would then be manifestly unfair to criticize it from the standpoint of the service it might render one already cognizant of the subjects of which it deals.

It contains nothing which would be of much service in aiding the general practitioner to choose the outfit which he should buy. If he already has an apparatus and should have no knowledge concerning it, he could get some elementary points concerning its use from this book. Having acquired this knowledge he must, as indeed the book advises him, turn to a larger more scientific publication for further instruction. On the other hand, the chapters on treatment contain paragraphs which epitomize well, and in a sane yet enthusiastic manner the conditions which, by X-Ray and high frequency treatments have been of therapeutic service. The author wisely states that these agents are of no curative value in cases of superficial epitheliomata with secondary glandular enlargement or in cases of carcinomata.

On the other hand attention is drawn to the marked therapeutic effect which these agents have upon sarcomata and the theory advanced that it is owing to a stimulation of the young cells which in case of carcinoma only leads to an increased epithelial formation, whereas in sarcoma, an older type of tissue—fibrous tissue—is produced, is very interesting.

Thus the book would be of some service to the beginner and the reading of it would probably stimulate the general practitioner into taking a more decided interest in these subjects.

G. L. PAINTER.

**Treatment of the Diseases of Children.** By Charles Gilmore Kerley, M. D. Publishers, D. Appleton Co., New York. 1909

This is a most exasperating book; on each page there is information that is invaluable, but with this there is usually some statement which is controversial or is in direct contradiction to the teachings of most pediatrists. The great virtue of the work is that it is eminently practical. The minutiae of many therapeutic procedures are given in such detail that no one will have excuse for omitting to use them.

One of its most admirable divisions is that given over to gymnastic therapeutics; a subject which is too infrequently given due recognition. Kerley very properly recommends gymnastics for flattened or narrow conditions of the thorax, curvatures of the spine, flatfoot, congenital ataxia, anterior poliomyelitis, habitual constipation, and malnutrition. If only for this section, no practitioner who deals extensively with children can afford to be without the book.

In judging a work on the treatment of children one naturally turns to the chapter on the management of diphtheria, and it is very satisfying to find the author writing that "After a large experience in the use of antitoxin I am convinced that it is often given in too small initial doses, even by men who are familiar with its use." Even with this warning in mind the dose recommended by the author for laryngeal diphtheria is not sufficient. According to him, seven thousand to ten thousand units should be given at the first injection and repeated the following day, in cases which require intubation. It has been very clearly shown in the contagious wards of the San Francisco County Hospital that twelve to fifteen thousand units promptly given to laryngeal cases, and the dose repeated in twenty-four hours will in most instances prevent the necessity for intubation. The minimum initial dose of antitoxin should be five thousand units, from that up to fifteen thousand should be given in the beginning; and the size of the dose should be proportioned by the amount of toxaemia present. The weakness of the author's chapter on diphtheria, is in that it does not give a sufficiently clear picture of those varying degrees of toxemia which should guide the physician in giving antitoxin. Considering how alarming a complication is heart failure supervening during diphtheria, one is disappointed to find no reference to the complication other than "When the heart action is irregular and intermittent and cyanosis develops, there is need of heart stimulants such as alcohol, strychnin, digitalis and strophanthus." One of the most important dicta laid down by the author, in reference to laryngeal diphtheria, is that "intubation should not be postponed until the child has become exhausted in its struggle for air." "Diphtheria is a disease in which every possible strength unit must be preserved."

The advice given about the treatment of scarlet fever is excellent. One would demur from the statement that "the value of the serum treatment has been by no means demonstrated." It is true that present conditions do not warrant us to advise the use of specific serum in every case of scarlet fever, but there is no possible doubt that the serious and severe symptoms of phlegmonous tonsillitis with extensive adenitis will be more promptly and thoroughly controlled with than without sufficient doses of antistreptococcus serum promptly given. One notices with some astonishment the absence of any reference to the use of the mustard pack which

has been given prominence by Heubner. We have no single therapeutic agent so valuable in dealing with the pneumonias or with severe bronchitis, mustard baths do not in any way equal the pack in therapeutic efficiency.

The most marked departure the author takes from recent accepted pediatric teaching is in that part of the book devoted to feeding. His devotion to clean milk and his support of certification is gratifying, but it is disappointing to find that he recommends and offers for use cream formulae. It may be possible in New York to obtain clean cream, but it certainly is not in San Francisco, and it is probably very difficult to obtain anywhere in this country. The average market cream is filthy, and mixed with gelatine or starch and some preservative. These facts should banish market cream from the list of substitute foods. The author persists in the statement which has been so often made, and so often refuted, that the casein in cow's milk is that which renders it difficult of digestion. This contention can be demonstrated by any one and with equal ease it can be shown that pure clean skimmed milk can be digested by the weakest baby in almost its normal concentration.

The chapters on feeding show no reference to the work of Finkelstein and his pupils, on the food intoxications of infancy; certainly no book can be considered a safe guide to the feeding of infants that overlooks these classical contributions to the pathology of digestion in early life. Although the author sounds a warning note against the overuse of fat in substitute mixtures, some of his formulas call for much too high a percentage of that element. One formula calls for almost 4% and one for considerably more than 4% and under those circumstances it is no wonder that the author has found that "constipation is one of the greatest difficulties one has to contend with in the feeding of bottle-fed babies." However, the advice given here is mitigated by that given under the heading "Symptomatic Adaptation." This paragraph contains detailed advice that will certainly make it easier, for any one who studies it carefully, to get better feeding results. The number of feedings recommended by the author in twenty four hours is excessive, especially the number recommended for the early months, and for breast-fed infants. No child ever needs ten nursings in twenty-four hours. In fact, infants are often damaged by such overfeeding and many mothers are rendered impotent to supply breast milk by this very vicious practice. Seven feedings in the twenty-four hours are as many as any healthy child should be given. The writers sneer at the caloric method of feeding, very apparently arises from a misapprehension of that method. His statement that the average infant in this country cannot be fed by this system is probably true, but his argument that thirty-one thriving infants were given from one hundred forty to two hundred thirty calories in excess of the standard, does not prove anything. It is just such thriving overfed infants, who at the end of their first year or during their second, develop food intoxications and acquire all sorts of infections which because of their bad feeding they have no power to resist. There is no greater mistake than to feel that a fat, rapidly gaining baby is necessarily the best type of baby.

However, it would be ungracious to insist on the few weaknesses of a book which contains so very many incisively stated principles of pediatrics. No one can read the book without being benefited, and one in doubt about therapeutic procedure, turning here for aid, could hardly fail to find much help.

L. P.

## SCHOOL HYGIENE.

D. C. Heath & Co., of Boston, will soon have out a new health book for the schools, entitled "Health Studies, or Applied Hygiene and Physiology." Dr. Ernest B. Hoag, director of health work in Throop Institute and the Pasadena city schools is the author. President Jordon of Stanford University has written the introduction. Those who have seen the manuscript speak very highly of the proposed book. It will no doubt have a large sale in many schools which are looking for a practical book.

## ARMY MEDICAL CORPS EXAMINATIONS AT WASHINGTON, CHICAGO AND SAN FRANCISCO.

The Surgeon General of the Army announces that the War Department has appointed permanent boards for the preliminary examination of applicants for appointment in the Medical Corps of the Army to meet at Washington, D. C., Fort Sheridan (near Chicago), Illinois, and San Francisco, California, in addition to the usual preliminary examination boards that are assembled at various army posts throughout the United States from time to time. The permanent boards will hold sessions on the second Monday of each month.

A limited number of successful candidates will be appointed first lieutenants in the Medical Reserve Corps (salary $2,000 per annum), and assigned to army posts until the next session of the Army Medical School, when they will be ordered to attend the school as "student candidates."

Applicants must be citizens of the United States, between twenty-two and thirty years of age, graduates of reputable medical schools, of good moral character and habits, and shall have had a year's hospital training after graduation, or its equivalent.

Full information concerning the examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C."

## DR. JOHN HARVEY DAVISSON.

John Harvey Davisson, M. D., College of Physicians and Surgeons, Baltimore, Maryland, 1876, where he received the Cathell Gold Medal of his class. Located at Warsaw, Ind., 1876, where he practiced medicine and surgery for ten years. Was appointed surgeon for the Fort Wayne & Chicago Railway, and was also elected secretary of the Surgeons' Association of the Pennsylvania Railway.

In Warsaw, Ind., in October, 1879, Dr. Davisson was united in marriage with Miss Blanche Williams, daughter of Hon. Wm. Williams. The doctor and his wife had one son, Carl Woodford Davisson. In 1886 he came to Los Angeles, where he has had a very active practice ever since. He died Nov. 1st, 1909, at the age of sixty years. Heart disease.

He represented the State of California at the World's Sanitary Congress at the World's Fair in Chicago, in 1893, and also at the Pan-American Medical Congress held in the city of Mexico in 1896, being at that time president of the board of health of the State of California. He also served a number of years in the Los Angeles Board of Health. He held membership with the American Medical Association, Los Angeles County Medical Society, State Medical Society, and the Southern California Medical Society (which he assisted in organizing). He also assisted materially in the organization of the California Hospital Association.

Notwithstanding his many engrossing interests Dr. Davisson was affiliated with various social and fraternal organizations, among them the California, Jonathan and Sunset Clubs. He was a very prominent Mason, belonging to Southern California Lodge No. 278, F. & A. M.; Signet Chapter No. 57, R. A. M.; L. A. Commandery No. 9, K. T., and Al Malaikah Temple, A. A. O. N. M. S.

## FOUND DEAD.

The body of Dr. C. E. Hesman was found on Mono Lake Divide (Inyo County), September 24, 1909, murdered. Anyone having seen him prior to the above date will please notify the Norcross Investment Company, Room 89, Bacon Bldg., Oakland, Calif.

## PELLAGRA.

Dr. J. F. Siler, Medical Corps, U. S. Army, and Chief of Department of Tropical Medicine in the New York Post Graduate Medical School, has been sent to Peoria, Ill., to investigate the recent outbreak of Pellagra.

## THE SECOND INTERNATIONAL CONFERENCE ON LEPROSY, HELD IN BERGEN, NORWAY, AUG. 16-19, 1909.

In the Public Health Reports for September 17th appears the report of Passed Assistant Surgeon Donald H. Currie, of the U. S. Public Health and Marine Hospital Service, on the Second International Conference on Leprosy, held in Bergen, Norway, August 16-19, 1909. Dr. Currie was one of the official delegates representing the United States at the conference. In his report he states that the following enumeration gives the distribution of leprosy throughout the world as obtained from the reports of the official delegates, and from data furnished by the Norwegian government:

| | * Cases. |
|---|---|
| France | 246 |
| Iceland | 200 |
| Germany | 28 |
| Roumania | 208 |
| Servia | 3 |
| Bulgaria | 9 |
| European Turkey | 550 |
| Greece | 9 |
| Crete | 600 |
| Russia | 1,372 |
| Italy | 123 |
| Spain | 240 |
| Palestine | 800 |
| India | 97,340 |
| Ceylon | 589 |
| Indo-China | 10,500 |
| Java | 15,000 |
| Borneo | 68 |
| Sumatra | 896 |
| Japan | 40,000 |
| Canada | 20 |
| Cuba | 1,297 |
| Jamaica | 115 |
| United States of Colombia | 4,152 |
| Argentine Republic | 12,000 |
| Algeria (in 26 years) | 109 |
| United States of America: | |
| Mainland of America | 146 |
| Hawaiian Islands | 764 |
| Porto Rico | 17 |
| Guam | 19 |
| Philippine Islands | 2,330 |
| Canal Zone | 7 |

A brief review of the more important papers read at the conference is given. Dr. Ehlers, of Copenhagen, who recently made a visit to this country, presented the preliminary report of the Danish-French commission for the study of leprosy, the title of his paper being "The Transmission of Leprosy by Suctorial Insects."

The conference adopted the following resolutions:

A.

1. The Second International Scientific Conference on Leprosy confirms in every respect the resolutions adopted by the First International Conference of Berlin, 1897.

Leprosy is a disease which is contagious from person to person, whatever may be the method by which this contagion is effected. Every country, in whatever latitude it is situated, is within the range of possible infection by leprosy, and may, therefore, usefully undertake measures to protect itself.

II. In view of the success obtained in Germany, Iceland, Norway, and Sweden, it is desirable that other countries should isolate lepers.

III. It is desirable that the children of lepers should be separated from their parents as soon as possible, and that they should remain under observation.

IV. An examination should be made from time to time of those having lived with lepers by a doctor having special knowledge.

It is desirable that lepers should not engage in certain trades or occupations.

All leper vagabonds and beggars should be strictly isolated.

B.

V. All theories on etiology and the mode of propagation of leprosy should be carefully examined to ascertain if they accord with our knowledge of the nature and biology of the bacillus of leprosy.

VI. The clinical study of leprosy induces the belief that it is not incurable. We do not at present possess a certain cure. It is desirable, therefore, to continue the search for a specific remedy with the greatest zeal.

The International Leprosy Conference, held in Berlin in 1897, arrived at the following conclusions: Every leper is a danger to those around him, the danger varying according to the nature and extent of his relations to others and also to the sanitary conditions under which he lives. Among those living in an insanitary manner, every leper is especially dangerous to his family and fellow-workers. The theory of the heredity of leprosy is becoming less probable, and the contagiousness of the disease is generally accepted. The following resolutions were formally adopted:

1. In countries in which leprosy forms foci or has a great extension, isolation is the best means of preventing the spread of the disease.

2. The system of obligatory notification and of observation and isolation, as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of physicians.

3. It should be left to the legal authorities, after consultation with the medical authorities, to take such measures as are applicable to the special social conditions of the districts.

## ITEMS FROM THE MARINE HOSPITAL SERVICE.

Surgeon Rupert Blue, who has had charge of plague preventive measures in California for the past thirty months, has been granted a four-months leave of absence in order that he may go abroad for purposes of study and research. During his temporary absence Passed Assistant Surgeon George W. McCoy will have charge of the epidemic operations of the Service, being assisted by Passed Assistant Surgeon W. C. Rucker, Assistant Surgeon F. Simpson and Acting Assistant Surgeon George Converse.

It is reported that two plague squirrels were found in the foothills back of Berkeley on January 11th.

* Approximate.

## PLAGUE IN GROUND SQUIRRELS.

In the Public Health Reports for August 27, 1909, appears an article on "Plague Among Ground Squirrels in Contra Costa County, California." In 1894 plague began to spread from central Asia. Since then it has been carried to practically all parts of the world, including the Pacific Coast of the United States, where the disease has appeared in man, in rats, and in ground squirrels. The infection in ground squirrels has so far appeared in Contra Costa and Alameda Counties, California, chiefly in the former, where, up to September 10, 1909, 220 plague infected squirrels had been found. The Public Health and Marine-Hospital Service is attempting to destroy all the ground squirrels in the involved area, or at least to so reduce them in number that the plague infection among them will die out of its own accord. This article gives a detailed account of plague infection among the ground squirrels in Contra Costa County, and the relation of squirrel plague to plague in man. It also describes the means employed for the destruction of the squirrels, and gives a serial list of infected squirrels with the location where found.

The article has been reprinted and a limited edition is available for distribution to those interested. Requests for copies should be made to the Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C.

## TREATMENT OF PELLAGRA.

Much interest has been aroused during the last two years in the subject of pellagra. A study of the disease in the United States has thus far shown that it is widely distributed throughout the south, and present in some localities in the north. The question of prognosis and treatment is naturally, therefore, one of much interest. Dr. C. H. Lavinder, of the Public Health and Marine Hospital Service, who for more than a year has been devoting his time to a study of the disease, has in a recent article[1] given a brief review of the subject.

He states that the prognosis must invariably be considered as grave, and that complete recovery can seldom be assured. Reliable statistics on the subject in the United States are practically limited to asylum cases, and give a mortality of 67%. It must be borne in mind, however, that asylum cases are undoubtedly the more advanced and hopeless ones, and for that reason will give a mortality much above the average. Lombroso gives statistics of hospital cases in Italy in 1883 and 1884, showing a mortality of 13%, whereas Wollenberg gives Italian statistics for 1905 showing a mortality of a little over 4%. The disease resembles tuberculosis, both in that it is an insidious and chronic condition, and that much depends upon early diagnosis and treatment, prognosis of early cases being far better than advanced ones. The importance of this is apparent when it is considered that the disease is an intoxication, and that it is probably associated with diseased corn or corn products used as food. An early diagnosis can, therefore, if the etiologic relationship of corn is correct, eliminate future doses of the poison, which otherwise would be continued.

Predisposition is believed to be an important factor in this disease. Lowered physical resistance, mental worry, insufficient food, bad housing and alcoholism are supposed to render one more susceptible.

In Italy laws have been passed regulating the use and storing of corn and derivatives, institutions have been established for the care and treatment of pellagrins, improved agricultural methods are encouraged, and assistance is given to the sick in many ways by the government.[2]

In the treatment of patients Lombroso recommends a liberal diet; in some cases he uses baths and cold douches, believing them to be of benefit in certain cases with nerve and skin manifestations; he has found arsenic a valuable remedy, and sodium chlorid of service.

Some authors have reported good results from the use of the newer arsenical preparations atoxyl and soamin.

Transfusion of blood from cured cases to the sick has been tried, and may prove of value.

1 Public Health Reports, Sept. 10, 1909. Copies of this article can be obtained by making request to the Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.

2 Public Health Reports, July 23, 1909, pp. 1053-1054.

## BOARD OF EXAMINERS, DECEMBER SESSION.

Passed.

| School of Medicine. | Date of Graduation. | Percentage. |
|---|---|---|
| Coll. of P. & S., Los Angeles, Cal | 6, 24, 09 | 87.3 |
| Coll. of P. & S., Los Angeles, Cal | 6, 24, 09 | 81.7 |
| Coll. of P. & S., S. F., Cal | 5, 22, 06 | 76.1** |
| Cooper Med. Coll., S. F., Cal | 11, 5, 08 | 79.6 |
| Cooper Med. Coll., S. F., Cal | 11, 20, 08 | 75.6 |
| Cooper Med. Coll., S. F., Cal | 6, 1, 09 | 75.4 |
| Hahnemann Med. Coll. of the Pac., Cal | 10, 15, 03 | 84.1 |
| Hahnemann Med. Coll. of the Pac., Cal | 5, 21, 08 | 82.3* |
| Hahnemann Med. Coll. of the Pac., Cal | 5, 21, 08 | 81.4* |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 87.2 |
| Univ. of So. Cal., L. A., Cal | 6, 13, 05 | 86.7* |
| Univ. of So. Cal., L. A., Cal | 6, 13, 07 | 86.2 |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 82.9 |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 81.4 |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 80.5* |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 77.1* |
| Univ. of So. Cal., L. A., Cal | 6, 13, 07 | 75.0* |
| Boston Univ., Sch. of Med., Mass | 6, 4, 95 | 83.9 |
| Coll. of P. & S. of Chicago, Ill | 6, 5, 09 | 86.2 |
| Cornell Univ. Med. Coll., N. Y | 6, 9, 09 | 85.5 |
| Denver & Gross Coll. of Med., Colo | 5, —, 04 | 86.4 |
| Hahn. Med. Coll., Chicago, Ill | 4, 25, 01 | 78.3 |
| Hahn. Med. Coll., Chicago, Ill | 3, —, 86 | 87.2* |
| Hahn. Med. Coll., Chicago, Ill | 4, 14, 91 | 82.7 |
| Hahn. Med. Coll., Chicago, Ill | 3, 24, 98 | 80.7* |
| Hahn. Med. Coll., Phila., Pa | 5, 15, 01 | 75.0* |

| | | |
|---|---|---|
| Harvard Med. School, Mass | 6, 24, 91 | 81.4 |
| Harvard Med. School, Mass | 6, 25, 02 | 75.1 |
| Harvard Med. School, Mass | 6, 29, 98 | 75.6** |
| Homeo. Med. Coll., Mo | 4, —, 98 | 80.0 |
| Jefferson Med. Coll., Pa | 5, 15, 95 | 80.0*** |
| Jefferson Med. Coll., Pa | 5, 2, 93 | 80.0*** |
| Johns Hopkins Univ., Md | 1, 6, 08 | 85.8 |
| Marion-Sims Coll. of Med., Mo | 4, 10, 97 | 83.9* |
| McGill Univ., Montreal, Can | —, —, 05 | 76.3 |
| Medico-Chirurgical Coll., Phila., Pa | —, —, 01 | 80.6* |
| N. Y. Homeo. Med. Coll. & Hosp., N. Y | 5, —, 05 | 75.2 |
| N. W. Univ., Chicago, Ill | 6, 9, 09 | 85.4 |
| N. W. Univ. Med. Sch., Ill | 6, 16, 98 | 80.5* |
| N. W. Univ. Med. Sch., Ill | 6, 20, 07 | 80.3 |
| Rush Med. Coll., Ill | 3, 19, 08 | 97.5 |
| Rush Med. Coll., Ill | 2, 19, 89 | 88.2** |
| Rush Med. Coll., Ill | 9, —, 09 | 87.4 |
| Starling Med. Coll., Ohio | 4, 10, 02 | 80.1 |
| State Univ., Iowa | 3, 5, 85 | 85.5** |
| State Univ. of Kan | 6, 9, 09 | 85.4 |
| Tufts Med. Coll., Mass | 6, 12, 07 | 81.9* |
| Univ. of Ga | 3, 3, 83 | 83.8* |
| Univ. of Heidelberg, Germany | 7, 1, 07 | 89.6 |
| Univ. of Ill | 6, 5, 09 | 82.1* |
| Univ. of Md | —, —, 03 | 81.2* |
| Univ. of Mich. Homeo. Med. Coll., Mich | 6, —, 08 | 83.4* |
| Univ. of Mich | 6, —, 02 | 81.3* |
| Univ. of Mich | 6, 25, 91 | 79.0 |
| Univ. of Minn | 6, 7, 94 | 90.9 |
| Univ. of Minn | 6, 11, 08 | 75.0* |
| Western Univ. of London, Can | 4, 7, 99 | 84.4 |
| Yale Univ., Conn | 6, 27, 06 | 87.6 |

**Failed.**

| | | |
|---|---|---|
| Coll. of P. & S., S. F., Cal | 5, —, 06 | 72.7*** |
| Coll. of P. & S., S. F., Cal | 6, 6, 07 | 71.0** |
| Coll. of P. & S., S. F., Cal | 5, 19, 09 | 66.5 |
| Coll. of P. & S., S. F., Cal | 6, 25, 02 | 42.9* |
| Cooper Med. Coll., S. F., Cal | 11, 5, 08 | 71.8* |
| Cooper Med. Coll., S. F., Cal | 5, —, 09 | 68.1 |
| Univ. of So. Cal., L. A., Cal | 6, 18, 08 | 71.7** |
| Coll. of P. & S. of Chicago, Ill | 5, 24, 04 | 49.4 |
| Coll. of P. & S. of Keokuk, Iowa | 3, 2, 80 | 43.8 |
| Jefferson Med. Coll., Pa | 4, 27, 90 | 73.0 |
| Jefferson Med. Coll., Pa | 5, 4, 94 | 69.4** |
| Jefferson Med. Coll., Pa | 5, 15, 95 | 59.6* |
| Kansas City Med. Coll., Mo | 3, 16, 91 | 76.2 |
| Kentucky School of Medicine | 6, —, 89 | 71.2 |
| Kentucky School of Medicine | 6, 20, 94 | 69.7 |
| Kentucky School of Medicine | 3, 15, 89 | 66.8* |
| Mich. Coll. of Med., Mich | 3, 3, 81 | 19.6 |
| Royal Univ. of Turin, Italy | 7, 5, 99 | 18.7 |
| Rush Med. Coll., Ill | 5, 22, 95 | 67.8 |
| Univ. of Md | 6, 1, 09 | 68.4 |
| Univ. of Mich | 6, 27, 95 | 71.5 |
| Univ. of Mich | 7, 1, 80 | 56.8 |
| Woman's Hosp. Med. Coll. of Chicago, Ill | 4, 1, 90 | 73.5 |

**Osteopathy—Passed.**

| | | |
|---|---|---|
| L. A. Coll. of Osteopathy, Cal | 6, 3, 09 | 84.7 |
| L. A. Coll. of Osteopathy, Cal | 6, 3, 09 | 77.7* |
| L. A. Coll. of Osteopathy, Cal | 1, 28, 09 | 75.0 |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 81.6* |
| Pac. Coll. of Osteopathy, Cal | 2, 4, 09 | 79.7* |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 78.9* |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 76.7 |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 75.0 |

**Osteopathy—Failed.**

| | | |
|---|---|---|
| American Sch. of Osteopathy, Mo | 6, 22, 97 | 61.0* |
| L. A. Coll. of Osteopathy, Cal | 6, 3, 09 | 72.7* |
| L. A. Coll. of Osteopathy, Cal | 6, 3, 09 | 67.5 |
| Northern Institute of Osteopathy, Minn | 6, 1, 97 | 70.3** |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 72.2 |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 70.0* |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 67.9 |
| Pac. Coll. of Osteopathy, Cal | 6, —, 09 | 22.3 |

* Taken before.

## NEW LICENTIATES.

C. S. Allen, A. G. H. Anderson, H. J. Andrews, L. B. Barnes, A. Beardslee, H. R. Boyer, J. H. Breyer, J. M. Brown, H. D. Brusco, E. A. Buehler, J. A. Collie, H. L. Connor, G. H. Copeland, A. Crawford, H. Damkroeger, B. Davis, P. DeLucis, J. S. Derrick, E. C. Dole, L. Eloesser, D. J. Evans, E. B. Fergusson, D. P. Flagg, H. G. Ford, B. S. Frary, E. C. Gilbert, R. H. Goodale, J. P. Goray, G. W. Hartman, A. W. Hiller, J. E. Jennison, E. J. Johnston, H. D. Kessler, E. K. Kester, F. W. K. Kidder, A. B. Lefler, H. Lischner, A. G. Lumsden, E. G. Lynn, L. W. Mansur, J. L. McDaniel, R. T. McGurk, F. M. McHugh, C. F. Metcalf, A. P. Miller, R. E. Moss, A. S. Murphy, A. H. Nahman, L. B. Nelson, B. J. O'Neill, Jr., L. W. Paul, A. Peterson, C. J. R. Peterson, J. A. Reily, C. H. E. Remondino, M. B. S. Reynolds, J. H. Robinson, S. E. Sanger, C. P. Shaffer, H. L. Shepherd, W. F. Smith, H. H. Sutherland, D. W. Thurston, W. R. Tyler, T. H. Ullyot, F. J. Wagner, S. Weiss, H. B. Yacoubi.

Dr. Wm. Fawcett Smith, Trinity Coll., Dublin, Ireland, 11, —, 63, and Dr. Frank M. McHugh, Louisville Hosp. Med. Coll., Ky., 7, 30, 08, took the August, 1909, examination, and upon review of papers and credentials, were granted a license December, 1909.

## CONGRESS ON HYGIENE.

To the Editor of California State Journal of Medicine. Dear Sir:—On the invitation of the Department of State of the United States Government, the Fifteenth International Congress on Hygiene and Demography will convene for the first time on the American continent in Washington, D. C., from Sept. 26th to Oct. 1st, 1910. Section III of this Congress deals with the subjects of the Hygiene of Infancy and Childhood: School Hygiene. It is believed that this will be a meeting of the utmost importance.

We take this means of requesting your readers to let us know of any pieces of original work which are being done, bearing upon this topic. The general ground to be covered by this section is indicated by the enclosed rubric.

Sincerely yours,
A. JACOBI, President.

## NEW AND NON-OFFICIAL REMEDIES.

Since advising you June 28, the Council has acted on the following products:

Articles accepted for N. N. R.:
Tannismuth (Heyden Chemical Works).
Digalen (Hoffmann-La Roche Chemical Works).
Benzosalin (Hoffmann-La Roche Chemical Works).
Benzosalin Tablets (Hoffmann-La Roche Chemical Works).
Thephorin (Hoffmann-La Roche Chemical Works).
Thephorin Tablets (Hoffmann-La Roche Chemical Works).
Veronal Sodium (Merck & Co.).
Zinc Peroxide Soap (Roessler & Hasslacher Chemical Co.).

Articles accepted for N. N. R. Appendix:
Dionin Ointment 5% (Manhattan Eye Salve Co.).
Argyrol Ointment 10% (Manhattan Eye Salve Co.).
Holocaine & Adrenalin Ointment 1% (Manhattan Eye Salve Co.).

Since advising you September 3, the Council has acted on the following products:

Articles accepted for N. N. R.:
Mergal (Riedel & Co.).
Salipyrin (Riedel & Co.).
Perogen Bath (Morgenstern & Co.).
Accepted for N. N. R. Appendix:
Atoxyl and Iron, Tablets (Sharp & Dohme).

Articles accepted for N. N. R.: Suprarenalin Inhalent (Armour & Co.); Bilein (Abbott Alkaloidal Co.); Bilein Pills, 1-4 Gr., 1-8 Gr., and 1-12 Gr. (Abbott Alk. Co.); Iodone Oil (Henry C. Blair Co.); Iodone Ointment (Henry C. Blair Co.).

Articles accepted for N. N. R. Appendix: Comp. Yellow Oxid and Adrenalin Ointment (M. E. S. Co.) (Manhattan Eye Salve Co.); Cocaine and Adrenalin Ointment (M. E. S. Co.) (Manhattan Eye Salve Co.).

## SURGEON C. P. WERTENBAKER.

In February last Surgeon C. P. Wertenbaker, of the Public Health and Marine-Hospital Service, in giving an illustrated lecture on tuberculosis before the Negro Farmers' Conference at Savannah, Georgia, suggested the organization of a State Anti-Tuberculosis League for Negroes. The idea was well received and a league was organized.

The proposed plan of organization contemplated a league in each State, with a branch in every colored church. This plan, which has been followed, is given in detail in the Public Health Reports of May 28, 1909.

The movement was indorsed by the last conference of State and Territorial boards of health.

Up to August 6, leagues had been formed in the following States: Georgia, Louisiana, Mississippi, North Carolina and Virginia.

"A Working Plan" for these leagues has been published in the Public Health Reports of September 3, 1909, giving in detail the method of organization of State leagues and of the local branch leagues.

The "Proposed Plan of Organization," and the "Working Plan," have been reprinted, and limited editions are available for distribution to those interested in the work. Requests for copies should be addressed to the Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C.

## NEW MEMBERS.

**Howe, R. C.,** Colton, Cal.
**Hull, F. E.,** Los Angeles.
**Dolman, E.,** San Francisco.
**Cohn, David,** San Francisco.
**Bunnell, Sterling,** San Francisco.
**Rosenberg, Caroline,** San Francisco.
**Hunt, R. H.,** San Francisco.
**McKibbon, Fred W.,** Big Oak Flat, Cal.
**Brown, W. B.,** Pt. Richmond, Cal.
**Cunningham, W. E.,** Pt. Richmond, Cal.
**Abbott, Ura S.,** Pt. Richmond, Cal.
**Evans, T. J.,** Loma Linda (San Bernardino Co.)
**Champion, J. A.,** Colton, Cal.

### Resigned.

Seymour, Francis A., Los Angeles.
Miller, Chas. F., Los Angeles.

### Deaths.

**Perrault, E. L.,** San Francisco.
**Norton, Thos.,** San Luis Obispo.
Guthrie, H. H., San Bernardino.
**Crowder, Henry C.,** Tracy, Cal.
**Frasse, I. N.,** Los Angeles (Died in Monterey, Cal.)
**Walker, Horatio,** Pasadena, Cal.
Smith, Walter A., San Francisco.

# California State Journal of Medicine.

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. VIII MARCH, 1910. No. 3


## EDITORIAL NOTES.

**ANNUAL MEETING.**

The Committee on Arrangements announces that the meetings of the State Society at Sacramento, April 19th, 20th and 21st, 1910, will be held in the Elks' Building, which is located conveniently near the Hotel Sacramento. The Hotel Sacramento is a new, reinforced concrete building, in every way first-class, and has made a satisfactory rate on the American plan for our members who attend the meeting. The details in regard to the entertainment of members and their families have not yet been concluded, but it is understood that the medical profession of Sacramento are planning to make the visit of the Society to that city a memorable one, as well for the entertainment provided as for the scientific work done. Make your plans right now to attend the meeting and do not allow anything to interfere with those plans when they are made. You can not afford *not* to attend these meetings; it is worth a month's income just to meet so many fellow practitioners and to learn that they are such nice people to know, and not just deadly rivals. Get out of the rut; go to the annual meeting; meet several hundred of your fellow physicians; learn something new; teach something that you have found out and that others ought to know. Go to the meeting even if at some sacrifice.

**RING TALK.**

In the State Society, in many, if not all County Societies, in every sort and form of organization of men, you will hear the same sort of talk; that things are run by a "ring," a "clique," a "machine." And it is perfectly true; all organizations of men are always managed and conducted—or "run"—by a few men who will give their time and their energy to the necessary work; probably very few of those who do the work would not be glad to be quit of it, if someone else would step forward and relieve them. In the main, all such work is done for the good of the society; when a man takes up the burden for purely selfish purposes, it is soon evident; results are not obtained; the society does not improve; for the work is not unselfish. On the other hand, and in the vast majority of cases, the work is unselfishly done and not for any personal reason; therefore, the society benefits; results are obtained; progress, and not retrogression, is assured. The man who undertakes to "run" things for himself is eliminated every time, just as sure as fate. You see that everywhere; in city politics, where the boss sooner or later is overthrown or convicted. Human nature is complex and all people, thank the Lord, do not like the same things. Some men like and are fitted for executive work; they are willing to give their time to it; is that any reason why the men who do not like it and are not fitted for it should say harsh things about them? All this talk about a "ring" is both true and absurd; it is true that a few men will always do most of the work; it is utterly absurd to deduce from that fact that they are doing so for purely selfish motives or for anything less honorable than the good of the society. A few men—the Council—have "run" the State Society for some eight years, with but very few changes in the personnel of that body. And what is the result? They have increased the Society until, at the end of December, 1909, there were 1954 names on the roll; the largest membership to date. They have gone out looking for ways in which to be useful to the members; they have given hours to that work; they have recently formulated a plan for medical defense which is working satisfactorily. Do you like things to be "run" that way, or not? A few men form the House of Delegates; can you recall an instance when that body has not worked for the good of the Society?

**THE A. M. A. DIRECTORY.**

When the American Medical Association undertook the publication of a medical directory that should be accurate—and not include within it the name of any old quack who would subscribe for the book—it did a great good for the medical profession of this country. Not the least important, and by far the most valuable part of the work of getting out this directory, was the compilation of reliable data in the A. M. A. office. From the data so gathered it is now possible to check up and prove the statements as to graduation,

license, etc., which any individual physician may make. The result is a higher degree of accuracy than has ever been secured in a similar work. It should receive the hearty support of every physician in order that the work may be improved from year to year, become more and more accurate in the matter of addresses, and thus become more useful to everyone. It is a subject for congratulation that the medical profession has come into its own in this one particular, and that it is no longer at the mercy of the whim or the avarice of a commercial publisher. Give the American Medical Directory your hearty support.

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**PLAGUE NEWS.**

The many friends of Dr. Rupert Blue will be glad to know that he has been made a Fellow of the Royal Society of Tropical Medicine of London in recognition of his remarkable work in fighting plague in San Francisco. This is one of the highest tributes which could be paid him and its bestowal reflects great credit not only on Dr. Rupert Blue, but on the service which he represents as well. In the past year there has not been a case of rat plague in San Francisco but the infection among ground squirrels in Contra Costa, Alameda, Santa Clara, San Benito and Santa Cruz counties has assumed such vast proportions that its eradication will probably be a labor of years. Thus far about 60,000 squirrels have been examined at the Federal Laboratory and over 300 have been found to be positive for plague. Just how far-reaching this epizootic will prove to be is difficult to say. Dr. George W. McCoy, who is in charge of suppressive measures during Dr. Blue's absence abroad, and Dr. W. C. Rucker, in command of the field work, are endeavoring to create a plague free zone around Oakland and Berkeley, with the object of preventing the infection from ground squirrels of the rats and other rodents of these cities. That such a danger exists is evidenced by the discovery of a plague infected woodrat in Alameda county.

During the past year three human cases of plague were reported, all being undoubtedly of ground squirrel origin. It is significant that no question has been raised as to the existence of plague among ground squirrels; the great educational campaign has certainly borne fruit for a few years ago such a diagnosis would have been assailed on every conceivable ground.

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**PUBLIC HEALTH COMMISSION.**

The Public Health Commission of the State Society is, as all of our members know, one of the most active bodies or committees connected with the Society. Since its very inception this commission has done a good deal of the very best, high grade work. It is now at work upon a plan to consolidate into one body a number of various committees whose work is more or less along the lines of conservation of the public health. At the coming meeting of the State Society, at Sacramento this April, the Commission will report upon this and its report should be of great interest. There are in the state a number of societies, as the Tuberculosis Society, the Society for the Prevention of Venereal Diseases, the Public Health Officers' Association, etc., all doing work that directly relates to public health matters. If these could be brought together on Monday, April 18th, 1910 (the day before the meeting of the State Society) at Sacramento, doubtless it would be found that they had many things in common and some sort of consolidation could be effected. All of these various movements are in the right direction and they are all doing good; but if some energy could be saved and the work of all increased by consolidation, it would assuredly seem to be a good thing. Dr. F. C. E. Mattison, Chairman of the Commission, is now trying to arrange for a meeting at the time mentioned and it is hoped that there will be a large attendance of those interested in the various societies and committees whose work is along public health lines. If you are in any way connected with any of these societies, be sure and attend the general meeting at Sacramento on Monday, April 18th; it will be well worth your while.

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**OPEN MEETINGS.**

At the last session of the American Medical Association, a resolution was introduced and passed, requesting all County Medical Societies to hold at least one open or public meeting each year. Such meetings will be of the very greatest benefit; the people generally do not know what medical societies are trying to do; they do not understand our present day efforts toward the betterment of public health matters; they are at sea as to the real reason for proper medical laws and for the compulsory vaccination of children. Equally are they in the dark as to the preventableness and curability of tuberculosis, and in a hundred ways they need enlightenment on matters medical, sanitary and hygienic. Therefore the holding of open or public meetings at least once a year, or oftener if possible, is strongly recommended to all County Medical Societies. Some of the County Medical Societies in California have been holding such meetings from time to time, and they have been found to be of great interest to layman and physician alike. A very profitable meeting could be held with the school board and the school teachers of the community, at which meeting school hygiene and the examination of school children could be discussed with much benefit to all concerned. The "backward child" from the standpoint of the school teacher, and then from the standpoint of the physician who can interpret much of this backwardness to physical defects and explain them and the necessity for their removal, would, in itself, make a profitable evening's program. Our State Society has urged this line of activity upon County Medical Societies for some years and it is therefore a matter of no small satisfaction to see that the importance of the work is not ignored by the American Medical Association. Do not let the present year end without having at least one such meeting in your county.

# PRELIMINARY PROGRAM AND NOTICE of the

## FORTIETH ANNUAL MEETING OF THE STATE SOCIETY, SACRAMENTO.

## APRIL 19TH, 20TH and 21ST, 1910.

**Headquarters, Hotel Sacramento. Sessions, at Elks' Building.** Public Health Association and kindred bodies meet on Monday, the 18th.

Railroad rates as usual, one and one third fare for the round trip. **Pay full fare for the ticket going to the meeting and be sure and get a receipt certificate from the agent at the time you buy your ticket. This must be signed by the Secretary, Dr. Philip Mills Jones, at the time of the meeting.** When you present this to the agent at Sacramento, **a return ticket will be sold to you at one-third the regular fare.** This applies to all railroads.

Skin Eruptions Induced by Various Means .....Harry E. Alderson

Urticaria.....Ernest D. Chipman

The Use of Arsenic in Diseases of the Skin .....D. W. Montgomery and G. D. Culver

Exhibition of Pictures of Various Dermatoses .....Howard Morrow

Experimental Surgery of the Hypophysis .....H. E. Castle

Surgery of the Human Hypophysis..... .....H. A. L. Ryfkogel

Pain as a Symptom in Secondary Syphilis .....E. W. Twitchell

*Eye, Ear, Nose and Throat Section.*

Glaucoma—A brief discussion as to the cause, and the relief of tension by sub-conjunctival injections of sodium citrate solutions.....Hayward G. Thomas

Glaucoma—Its experimental production..... .....W. S. Franklin

A Method of Determining the Source of Pus in Diseases of the Accessory Cavities of the Nose.....Henry Horn

The Differential Diagnosis of Labyrinthine Affections.....G. P. Wintermute

A Report of Mastoid Cases, with Special References to Diagnosis.....M. Stephens

Lantern-slide Demonstrations of Diseased Conditions of Ear, Nose and Throat..C. F. Welty

Tonsils—The Enucleation of the Tonsil from the Standpoint of the General Medical Man.....Langley Porter

Pathological Histology of Tonsils...Hill Hastings

The Enucleation of the Tonsil: a Surgical, Not a Radical Procedure.....A. J. Houston

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Hyperchlorhydria.....Wm. Fitch Cheney

Value of Rectal Examinations:

a—Value in gynecology;
b—In pediatrics;
c—In general medicine;
d—In genito-urinary work;
e—In surgical conditions;
f—In examination of nervous diseases, etc., .....A. J. Zobel

A Plea for a State Institution for the Treatment of Chronic Alcoholism and Drug Habitues.....R. E. Bering

Some Aspects of the Squirrel Plague Question .....G. W. McCoy

Some Points on the Etiology and Treatment of Enuresis.....E. C. Fleischner

The Doctor As the Middle Man.....W. F. Snow

*Symposium on Thoracic Surgery.*

The Question of Differential Pressure..... .....Dudley Tait and Raymond Russ

Surgery of the Lungs. (?)

Operations for Empyema. (?)

The Future of Heart Surgery. (?)

X-Ray Diagnosis of Surgical Condition in Thorax. (?)

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Demonstration of Muscle Rigidity as a Sign of Disease Within the Chest. Method of Outlining Organs by Light Touch Palpation.....F. M. Pottenger

Tuberculous Ulceration of the Rectum .....W. H. Kiger

The Value of Rest In the Treatment of Tuberculosis.....Robert A. Peers

Modern Treatment of Early Tuberculosis... .....Max Rothschild

Bovine Tuberculin in the Treatment of Pulmonary Tuberculosis.....Wm. C. Voorsanger

Thoughts on Tuberculosis, Its Communicability and Prevention.....Wm. S. Watson

Speech Disturbances and Their Treatment from the Present Standpoint.....Henry Horn

Amebiasis.....Herbert Gunn

Present Requirements of Medical Schools .....W. Jarvis Barlow

Present Status of Preliminary Medical Education.....T. W. Huntington

A Brief History of Medical Education in California.....Emmet Rixford

Utero-cystostomy.....Geo. B. Somers

Serum Diagnosis in Syphilis.....L. Schmidt

Report of One Year's Work with Wassermann Reaction.....H. R. Oliver

Nephritis:

Surgery of Nephritis.....S. Stillman

Medical Standpoint. (?)

Experimental Nephritis.....E. C. Dickson

Tropical:

Pellagra, Rabies, Amebiasis....Herbert Gunn

Hookworm.....Creighton Wellman

**"WHAT FOOLS THESE MORTALS BE."**

In *Life,* a weekly publication more noted for its smartness than its wit, and which is supposed to throw the searchlight upon the follies, foibles, sins, whims and caprices of human kind, there recently appeared a two-page illustration entitled "The Reward of Virtue." The artist has devoted his energies in making a series of drawings depicting the dog's service to man; he has grouped these about a center picture which for diabolic conception rivals Poe's best tales of the Spanish Inquisition. A hard-faced, elderly man, wrapped in a linen duster, stands with scalpel poised over a beautiful dog strapped securely to a table. A hypodermic case, a pair of forceps and scissors give evidence of his calling. One sleeve is rolled high and he is about to treat the other in the same fashion. The reader is left to imagine that the man's next move will be to spit on his hands and wade in. Just what he is going to do is difficult to say, but the Jekyll-Hyde expression would imply something heinous; possibly to cut out an eye, or amputate a paw or sever the head from the trunk, thus deriving an insane delight from the shedding of blood which would make him acceptable to the pages of Krafft-Ebing's case book.

This is *Life's* idea of humor; its tribute to the medical profession,—for it wishes to imply that the bloodthirsty individual is a physician. Medical humanitarianism is denoted by the hard face; surgical asepsis is pictured by the dirty linen duster; the cruelty and barbarity of medical research find expression in the pathos of the poor beast who is fastened as in a vise.

This horrible illustration, so unwholesome that it should have been suppressed by the authorities, is not without purpose. It is this silly journal's contribution to the fight which is being made against the Rockefeller Institute of Medical Research by certain fanatics in New York. This publication, whose view of life is obtained from a swiftly moving automobile or the windows of a fashionable club, has long been opposed to doctors; it is a fitting member of an alliance which would seek by any means, fair or foul, to stifle progress in the healing art. In vain do physicians show the human benefits of animal experimentation; in vain is Flexner's work at the Rockefeller Institute held up to their view. That the mortality in cerebro-spinal meningitis has been reduced from seventy-five to twenty-five per cent is mere drivel to these misguided sentimentalists. People who do not choose to fight fair are not open to argument.

**MEDICAL MACHINES.**

One hears, from time to time, more or less talk about "machines" that run medical societies, and the comment is always derogatory—or worse. What does it all mean? It simply means that those who have not the energy, the ability, the time or the inclination to do a certain amount of work, object when they see others doing it. Everything in the world is run by some sort of a machine. A few always do the work for the many. Lydston, and some other men with chronic ingrowing grouches, have expended a lot of energy (and no small sum of money, by whom contributed has not yet been explained) in attacking the American Medical Association, the cry being continually raised that it is run by a "machine." Well, for the sake of argument, let us suppose it is so run; do you not think it is a pretty good machine? It has built up the Association in the last ten years until now we own the largest and best medical journal published; we have nearly 40,000 members and we own over a half million dollars' worth of property. Is that something to be complained of? In running the A. M. A., modern business principles have been employed; authority and responsibility have been concentrated in one individual; it is up to the manager of any business to "make good"; if he does not, out he goes. That is exactly the case with the A. M. A.; the Secretary and General Manager is responsible, and he has made good. Why should the Trustees take a step backward and appoint a number of managers, thus dividing responsibility, when common sense dictates that the better policy, and the more successful one, is to concentrate responsibility and authority? It is absurd. Furthermore, it is a singular thing that, while the complexion of the House of Delegates changes from year to year, the policy of the Trustees is nevertheless endorsed each year; because it has been shown to be a good policy, and it is self-evident that the Association is being successfully managed; what more does anyone want? What more could anyone ask? If you were the owner of big business or a manufacturing plant, would you ask more than to have your business grow, develop, improve, increase with each passing year? It is absurd.

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**THE ORIGINAL PHARMACOPEIA.**

The Pharmacopeia had its origin in 1820, the first convention being composed of delegates from incorporated medical schools and medical societies exclusively. It was not till 1840 that similar pharmaceutical organizations were invited to co-operate in the work of compiling the Pharmacopeia. Since 1840 the medical representation and medical interest in the compilation of the Pharmacopeia have steadily decreased until it is but a shadow dominated by pharmaceutical interests which, unfortunately, are not entirely free from the suspicion of more or less commercial interest. The work originated with physicians and

was intended to be an authoritative text on materia medica preparations used by physicians; and this original intention should be restored. It is therefore urged that every incorporated medical society and college send three delegates to the Pharmacopeial convention which will meet in Washington, May 10, 1910. Our State Society is urged to elect three delegates to this convention; delegates who can and will attend the meeting and make a suitable effort to see that medical authority in formulating the Pharmacopeia is restored. Any member who can and will attend the convention, May 10, 1910, is requested to notify the secretary, Butler Building, San Francisco, immediately.

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**DELAYED RECOGNITION.**

The United States Pharmacopeia should be of great interest to physicians and pharmacists alike; as a matter of fact, however, most of the former and a goodly number of the latter have never even seen a copy of it and know nothing as to its contents or, indeed, what it is about. The work of getting out such a book is very great and is controlled by a comparatively small number of trustees, since 1860 mostly made up of men interested in pharmacy or in the publication of books on therapeutics which are, necessarily, based upon the Pharmacopeia. It is a distinct recognition of the work of the American Medical Association, in that the secretary of the association has recently been elected a member of the board of trustees of the Pharmacopeia. The association has done more to improve conditions in pharmacy and materia medica, in the last few years, than any Pharmacopeial convention or any board of its trustees ever did, and doubtless the influence for good of the association, expressed through the medium of its secretary on this board, will be decidedly marked and very valuable. In the *Midland Druggist* for December is an article on this subject in which the work of the association, and of its secretary, Dr. Simmons, as well as the wonderful work of Prof. Puckner, the secretary of the council on pharmacy and chemistry, are highly recommended. This is only noteworthy because of the fact that it is about the first time that any pharmaceutical publication (except the *Druggists' Circular*), has had anything good to say on the subject. Drug journals get a lot of their income from nostrum advertisements; therefore, drug journals do not like to be forced to recognize that a goodly share of the things they advertise are rotten frauds; therefore, they do not like the association or its council on pharmacy and chemistry. It is very simple. It is to be hoped that the next edition of the Pharmacopeia will represent less archaic material and more of what the practising physician needs and uses. Also, it is to be hoped that various "interests," publishing and otherwise, may be markedly less in evidence than has been the case in previous editions.

## ORIGINAL ARTICLES

### THE USES OF BACTERIAL VACCINES IN URINARY DISEASE.*

By GRANVILLE MacGOWAN, Los Angeles.

Out of the labors of many men whose lives have been given up to the investigation of the wonders, greater than any fairy tale ever told, of serum therapy, has grown the marvelous and miraculous application of the principles of bacterial vaccines.

Great aids to medicine they are, at times averting the necessity for surgical interference; and great aids to surgery at times, when used with judgment, and systematically, with appreciation of what is required of them, rendering successful operation certain where without them cure would be doubtful.

It is understood that in presenting this paper, I am to give you my individual impressions as to the value of the use of these vaccines in the treatment of infective diseases of the urinary organs, not compiled from the printed reports of others. The report upon the use of tuberculin is based upon the combined experiences of my associates, Dr. Henry Lissner, Dr. Frank Dillingham and myself, each in treating cases for himself, and both Dr. Lissner and Dr. Dillingham in treating cases for me. All opsonic work has been done by Dr. Lissner, the conclusions are not my conclusions but our conclusions, all work being checked between us.

The work upon the gonococcus vaccines is also the work of all three of us. The staphylococcus and colon inoculations are my own and are given for what they are worth.

Of course the reliability of a vaccine will depend entirely upon the intelligence and care of the individual preparing it, and the attention given to its preservation. It has been our custom to make individual cultures, and prepare, where there was any variation from the type, an autogenous vaccine, and when we obtained any particularly pure strain, to preserve it for stock. These vaccines have been prepared by Dr. Henry Lissner and Dr. Ethel Leonard.

In many cases we have controlled their exhibition, especially that of tuberculin, for several months, by frequent opsonic indices, so that we might, so to speak, get the reactive gait of the patient. In others, staphylococcic and streptococcic infections, no indices were taken at all as the clinical indications were as perfectly plain as the results obtained were prompt.

1. Tubercular Infections of the Urinary Organs.

Whenever tuberculin is referred to in this article, Koch's T. R. is meant.

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* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

I have had a large experience in the treatment of these diseases, and have grown into an optimist as to their curability. Each therapeutic measure is regarded merely as an adjunct, tuberculin being one of the most valuable. In no case has tuberculin been used alone, or entire reliance been placed upon it to effect a cure. It has been a plus quantity used in addition to hygienic, antiseptic, analgesic, and the general or local surgical measures which I have previously spoken of before this Society. In all cases but one it has seemed to possess distinct helpful value.

In establishing the dose for each individual there is no general law to be observed, except that it shall not be so much as to produce a marked general or local reaction. As a rule the greater amount of tissue involvement, the less the therapeutic dose required.

One is always confronted in cases of general tuberculosis, or where the genital organs, the kidneys, or the ureter, are involved with the bladder, by the liability of auto-inoculation occasioned by active movements, sexual excitement, the defecation of constipation, local massage, or the breakdown of caseous masses following septic infection, etc. It is in uncomplicated vesical tuberculosis, or in the early stages of renal tuberculosis, before caseous degeneration and ureteral thickening and occlusion takes place, that doses of considerable size are not only tolerated, but prove beneficial. Really it seems to us that in simple vesical tuberculosis, where the cystoscope shows plainly vesical involvement, with the presence of tubercle bacilli in the urine, and no discoverable lesion elsewhere, the danger of auto-inoculation is very small.

Matthews, first assistant to Sir A. E. Wright, states that 1-4000 mgm. of tuberculin is a sufficient dose for any case of tuberculosis of the genito-urinary organs. Walker speaks of giving 1-500, and even 1-250 mgm., fortnightly or monthly, in genital or renal tuberculosis, for years, with marked benefit upon the pain. Of course the susceptibility of the individual to bacterial reactions accounts for the wide difference in the doses as here exemplified. We prefer to give moderately small initial doses with considerable frequency, that for a child being from 1-10,000 to 1-5,000 mgm., and for an adult from 1-3000 to 1-2500 mgm., and we rarely increase this to more than 1-1000 mgm. in an adult, and 1-3000 in a child. We have used slightly greater doses at times but we believe that they are unnecessary and may prove injurious. For indications for increasing the dose above 1-1000 mgm. no instructions can be given, for each case is to be studied and treated as an individual—as if it were the only case. Generally speaking, when a case comes to a standstill, the dose can be increased with beneficial results. We now have individuals who have taken injections of 1-1000 mgm. every 4 or 5 days for periods approximating a year, always as I have said, with benefit. One case received 1-1000 mgm. every other day, because he said he felt so much better after each dose that it was decided the more frequent dose would prove of greatest benefit. The opsonic chart of this case which is attached shows the relation of the reaction to the index, and also the effect of each injection to the index. Favorable progress is indicated by the relief of pain and cystospasm, the lessening of the frequency of calls for urination, and the modification of haemorrhage and pyuria, together with the healing of existing ulcers of the bladder wall, and the disappearance of the irritated, paprika sprinkled condition about the ureteral opening on the affected side. Urinary frequency is benefited almost from the first, but continues above the normal long after the pain has disappeared. Of course where there is interstitial or parenchymatous infiltration of tuberculous granuloma into the bladder wall, with thickening and destruction of tissue, or the ureters are greatly involved, or the kidney substance destroyed by abscess formation it would be foolish to look for any rapid alleviation even with the assistance of tuberculin.

Such of these cases as are surgical should have the injections often enough to raise the index before any operative interference is attempted.

To sum up—we do not regard the opsonic index as a sinae quae non in the treatment of tuberculosis by injections of tuberculin. It has a value, and a decided one, when carried out by a trained person in establishing relatively the susceptibility of the individual to the influence of inoculations. But it is an expensive and onerous procedure, with too great an opportunity for individual variation to ever be mathematical in its workings, by any, except the highest trained experts in constant practice, and is consequently entirely beyond the use of the general practitioner of medicine, who must treat the great bulk of the tuberculous.

(1.) While injections of tuberculin have a definite usefulness in the treatment of tuberculosis of the urinary organs, they should not be depended upon to effect a cure of the disease.

(2.) The initial dose of tuberculin is from 1-5000 to 1-2500 of a mgm. in adults and the progressive dose may be gradually and safely raised to 1-1000 mgm.

(3.) Such doses will not be followed by any disagreeable or dangerous reactions, and distinct therapeutic benefit may commonly be observed after them.

(4.) Careful clinical observation of the symptoms complex of the disease renders the opsonic index unnecessary.

(5.) No case should be esteemed cured except upon the cessation of the disturbing symptoms of pain, frequency of urination, haematuria, pyuria, for a period of at least six months, coupled with the negative finding of tubercle bacilli in the urinary sediment. Animal inoculations, at least two, should be the deciding test of cure.

Appended are four case histories which serve as illustration of the routine of treatment as used by us and its results, which are sufficiently encouraging.

*Case 1*: A. W., 16 years old, school girl. Average afternoon temperature, 100. She has been ill for five months and has gradually lost weight and strength. Her most marked symptom is urinary frequency without pain, the intervals being from 3 to 15 minutes day and night. About July 1st blood appeared in the urine, which is now a port wine color, and contains pus and tubercle bacilli, but no kidney cells or casts. Though urination is not painful, the urethra is extremely sensitive to touch.

Aug. 1, '08. Cystoscopic examination.

Bladder wall edematous, ulcers abundant. Bladder capacity under deep anaesthesia, 25 cc.

Treatment:

Koch's T. R. commencing with a dose of 1-4000 mgm. every four days, the dose being slowly raised until a maximum dose of 1-1000 was taken. This treatment has been continued until the date of this report. A summary of her condition is as follows: Urinary frequency, one hour or longer during the day. No pus or blood in the urine—no temperature, feels fine, general health good, has increased in weight 30 lbs. Sleeps as a rule all night—with some incontinence.

*Case 2*: G. K., 30 years old. Patient of Dr. Gibbons. Opsonic indices and stainings for tubercle bacilli by Dr. Henry Lissner.

Family history, negative. Four years ago she had diphtheria and has not been strong since. Two years ago, dysuria commenced, at first moderate, it gradually increased in severity until in April, 1908, the pain was very severe, the intervals about hourly, and the urine was stained with blood.

Physical examination of other organs negative. Cystoscopic examination.

Edematous bladder, mucous membrane had many minute ulcers scattered through it, and there was one large irregular ulcer in the right lower quadrant external to the ureteral orifice. Urine contained blood, pus and tubercle bacilli in great abundance. Following this examination the patient was absent from California until Aug. 3rd, at which time treatment was commenced.

Her weight, normally 155 lbs., was reduced to 122¼ lbs., and she was weak, and in continuous pain with her bladder, and her digestion was greatly impaired.

Hygienic treatment, rest, sleep in the open air, and forced feeding were carried out and on Aug. 5 she received her first injection of tuberculin. At the end of Sept. her weight had increased to 127½ lbs., but there was no change in the dysuria. At the end of Oct. she weighed 131 lbs. and had greatly improved in strength. At the end of Nov. she weighed 132 lbs., the gain in strength was continuous, and the pain on urination was much less.

Cystoscopic examination showed the ulcers in process of repair, there was much less pus in the urine and the tubercle bacilli were much lessened in each field. At the end of Dec. the urinary frequency had decreased and the bladder capacity increased.

At the end of Jan. she was still stronger; the oedema of the bladder had nearly disappeared and the large ulcer had healed completely. Her weight remained at 132 lbs. Through Feb. and March the pain gradually disappeared entirely, the urine became almost clear and though tubercle bacilli were still present, they were found only after careful centrifuging and with much difficulty.

Local treatment did not figure greatly in the result, for it consisted in Aug., Sept. and Nov., of irregular irrigations of boric acid and sulphate of quinin solutions. From Dec. she has had tri-weekly vesical lavage with 1-30,000 silver nitrate solution.

Her strength has improved continuously but her weight has been at a standstill for some time, her physician thinks this is owing to occasional rather severe attacks of indigestion.

At this writing she can hold urine for five hours during the day and rises only twice at night. There is very slight pain on urination.

Amelioration of the pain has always followed promptly the injections of tuberculin.

*Case 3*: May 27, '08.—L. B., age 28. Dairyman. Normal weight 162 lbs. Sent to me by kindness of Dr. J. T. Stewart: Family history negative. No previous diseases except gonorrhea in 1906; this was easily cured. In Dec., 1907, frequent and painful bloody urination was first noticed and since that time the symptoms have been progressive, until now during the day he is obliged to urinate every fifteen minutes and at night dribbles continuously. Intense pains in glans, and cystospasm.

May 27, cystoscopic examination with direct instrument. Bladder capacity under deep anaesthesia 60 cc. Walls infiltrated, mucous membrane covered with pus, and full of typical tuberculous ulcers. Ureteral openings could not be distinguished. Ulcers most abundant upon the right side. Tubercle bacilli abundant in the urinary sediment.

There is marked prostatic and vesicular infiltration, these organs are bound together in one great mass by inflammatory products. Neither kidney could be palpated. Testicles normal. The tuberculous process seems to be limited to the urinary and sexual organs.

His general condition is distinctly bad. He has afternoon temperature, night sweats, loss of appetite and his weight reduced, and strength greatly impaired.

Treatment: He was placed immediately upon injections of tuberculin 1-4000 mgm. These injections were given every two, three, four or six days under opsonic control, for purposes of experiment, during the months of June, July, August, September and November. The quantity was gradually increased to 1-800 mgm. and finally a dose of 1-1000 mgm. was settled upon. This has been continued every fourth day until the present.

In addition to the injections he has received the regular treatment internal and external, before mentioned in this article.

The local treatment consisted for the first three months in daily instillations of 1 cc. of a solution of sublimate 1-10,000 to 1-7000. Early in Sept. the right seminal vesicle, and a gumma of the adjacent bladder wall, broke down and the abcess cavity pointed in the prevesical space on the left side. This was opened freely, curetted and cauterized with a 50% sol. of zinc chloride. It was found to communicate with the bladder by a narrow opening low down. His condition was so alarming, just before and during the operation, that I thought we would lose him. The wound was stimulated with iodoform and Peruvian balsam packing, was repeatedly cauterized by introducing fleches of the moulded stick of silver nitrate, and some forty exposures to the Roentgen Ray. It finally closed solid about Jan. 15, 1909. Since this time his improvement has been progressive; he has increased in weight from 140 to 156 lbs.; he has laid aside the urinal which he wore for many months, his frequency during the day is from 45 to 90 minutes and at night hourly; the bladder capacity is 60 cc. without anaesthesia. The pain on urination has greatly diminished and the continuous pain in the glans disappeared. The prostate and left vesicle are much smaller, and the right vesicle and right side of the prostate are atrophied now. The bladder remains a small, thick globular organ, the examination of which by the cystoscope is not very satisfactory.

*Case 4:* X. Y. Z., age 47. Patient of Dr. Wynne of Redlands.

June 4th, 1908. Infection with organisms of Neisser twenty-five years ago, which was followed by stricture and perineal fistula. For the past five months he has had a profuse, thin, sticky, mucopurulent discharge from the urethra. Examination of this discharge and the expressed contents of the prostate and seminal vesicles, by smear, and culture, negative as to diplococci. Tubercle bacilli were found in abundance, but none in the urinary sediment. He has lost thirty pounds in weight since the urethral discharge commenced. He is very feeble, extremely sensitive to pain, nervous and apprehensive, and has suffered for weeks from drenching night sweats. Urinary frequency, every two hours. Pain great. The glans penis is covered with shallow ulcers and there is a cicatricial and ulcerated contraction of the meatus, and the urethra immediately posterior to it. This was freely incised to allow of inspection of the pendulous and anterior perineal parts of the urethra.

June 15th. First injection of tuberculin 1/3000 mmg. Inspection of first 2½ inches of the anterior urethra through an endoscope revealed numerous minute tuberculous ulcers which bled easily. Posterior to this the urethra was narrowed to 16 F. The face of the constriction was covered with small, wart-like growths. All that portion of the urethra to which reference has been made was painted every second day with 25 per cent solution of silver nitrate. From the beginning he had received internally a Guiacol preparation, Fagasol by name, Urotropin, and at night Camphoric acid, for the severe perspiration. He also received 4 cc. of 10 per cent Iodine Vasogen by inunction into the abdominal wall daily.

On the 23d of June the fistulous tract in the perineum becoming acutely inflamed, he agreed to radical measures, and on the 25th I did an internal urethrotomy, enlarging the calibre of the urethra to 30 F., excised the entire tuberculous tract in the perineum and cauterized the raw surface with a 50 per cent solution of Chloride of Zinc. A part of the floor of the bulbous urethra was removed by this operation. A catheter was passed into the bladder through the urethra from the meatus and tied in for three days. Subsequent treatment consisted in the passage of sounds daily for fourteen days, until the healing of the perineal wound had progressed so that he could be about, and then every fourth day until November 1st; daily irrigations of urethra and bladder with 1-30,000 silver nitrate solutions, and application of fused silver nitrate, or Liquor Antimonii to the urethral ulcers, and the granulating surface in the perineum, as necessary, were made until they were all healed. In addition, Roentgen Ray exposures to the site of the fistula, before and after healing; prostatic massage every four days, hypodermic injections of tuberculin every four or five days and the medical treatment referred to above were used.

Improvement was gradual but steady, both in general strength and local symptoms. He was esteemed cured at the end of the first week in November, when the urine was clear, the intervals of urination reduced to once in four hours during the day, and no necessity for rising at night existed any longer. The discharge from the urethra ceased in October. No tubercle bacilli were found in the urinary sediment after the middle of September. The opsonic index, which was taken regularly in the case and the chart of which is attached, became normal September 15th and has remained so ever since.

He comes to me now every month for inspection, and at the time of writing this report, he is more than forty pounds heavier than he was a year ago, urinates a large stream of clear urine without pain or frequency, has a soft, pliable perineum, has no nodules in his prostate, has no ulcers in his bladder or urethra, has a normal index to the tubercle bacillus, and appears to be in every way perfectly well.

### Use of Vaccines in Staphylococcic Infections of the Bladder.

As an illustration of the power of a vaccine to remove certain alarming toxic conditions existing in a chronic infection of the bladder, we cite this case: February 13, 1909. T. W. G., 65 years old; manufacturer.

Prostatic for two years; passes small quantities of urine every five to ten minutes with much pain. Residuum 250 cc., which is acid and full of pus and micro-organisms; no marked impairment of renal function. He has had temperature and increased pulse rate for several weeks; has the facies of an infected person, but is not anaemic.

February 16, 9 a. m. Suprapubic prostatectomy without difficulty. After operation, the temperature and pulse remained high, the former ranging in the evening from 100.6 to 102.F, and the latter being commonly about 100.

As the bladder was closed tightly about the De Pezzer drain, all of the urine was easily collected and when measured and analyzed found practically normal in amount and composition. There was no yellowness of the skin or conjunctiva. He took only milk and lime water, or milk and Vichy, or peptonized milk. Yet there was a drowsiness and languor, with a sense of extreme weakness, accompanied by nausea, that could only be accounted for by an increase of the infection existing before operation. A culture was made and the predominating organisms were found to be the Staphylococcus Aureus and Albus.

On the 21st he was given an injection of 50,000,000 of this vaccine. On the 22d he was much brighter and asked for food, which he had not done before. On the 23d he had relapsed into hebetude. A second injection of the same amount was given. On the 24th and 25th he was better. On the 26th a relapse commenced and he was given a third injection. Following this there was a fall both in temperature and pulse rate, which had not been noticed before, and an intellectual brightening and a stomachic wake-up that was encouraging. On the 1st of March the nurse reported that there were evidences of return of the nausea and languor. I immediately gave him a fourth injection, after which there was no return of these ominous symptoms.

The relation between the cause of the infection and the results of the remedy do not seem accidental to me.

The ultimate result of the operation on this gentleman has been entirely satisfactory.

The immediate results of the use of Vaccines in appropriate cases are sometimes absolutely startling and appear like the work of a magician, as instanced in the case now related.

November 9, 1908. J. T. McF., farmer, patient of Dr. J. T. Stewart.

He has been a prostatic for two years, led a catheter life for one year, and has now reached the limitations of the latter, for the passage of a stiff instrument only is possible, and that after prolonged and difficult effort. Urine contains pus, blood, much albumen, but no casts. He is septic and has suffered much pain, and has had repeated chills and high temperature.

November 12th, prostate removed through perineum without great difficulty.—Spinal anaesthesia.

On the 14th of November he developed a cough which grew worse, but without any signs of pneumonia. On the 18th he developed a peculiar languor, nausea, restlessness, stupidity entirely unlike uraemia, which increased as the days went by, the temperature, pulse and respiration all increasing, the latter bearing no fixed relation to the former. For all this we could discover no cause. His urine, which came away through drainage tubes, was normal in quantity, and the quality good, and there was no cessation of the liver functions. On the 22d of November he commenced to have involuntary movements of the bowels and the septic condition became alarming. Dr. Stewart and I were both at a loss for the cause, which, not being able to find, we blindly attributed to the grippe.

While irrigating his bladder on the morning of the 22d, I noticed a lot of golden yellow granules in the return flow. These I at first thought were particles of the vaseline used to lubricate the catheter, but upon examination I found that they were little clumps of mucous or pus, and that the task of washing them all out seemed endless. Upon close examination they looked so much like giant colonies of the staphylococcus aureus that my curiosity was excited, for if they should be, it was evident that the bladder had become a culture ground for this bad microbe. I collected some of them on some sterile gauze and took them to the laboratory, and Dr. Lissner prepared a culture which proved to be an almost pure one of this special coccus.

At 2:45 p. m. on the 23d of November we gave him an injection of 80,000,000 of the Staphylococcus Aureus Vaccine. This was followed in a few hours by a drop in the temperature from 102.6 to 99.6 and an improvement in the lethargy and stupidity.

On the 24th of November at 10 p. m., the temperature having risen to 100.6, and the lethargy increasing again, he was given an injection of 60,000,000 of the Staphylococcus Vaccine. At midnight the temperature had dropped to 98.6 and he had sunk into a peaceful sleep which lasted until 8 a. m., when his temperature and pulse were normal, his respiration had fallen to 22, and he was alert, intelligent and asking for food. Within two days no further yellow granules could be found in the bladder washings, and though he had a long convalescence, due to a variety of depressing influences, he never from that day to this has had any return of the septic poisoning, which was so clearly due to the Staphylococcus Aureus, and which so promptly yielded to the vaccine.

### The Use of Vaccine in the Treatment of Gonorrhea.

When it was first known that a vaccine could be prepared from the gonococcus, its advent was hailed with fervor, and the long-looked-for quick cure was believed by many to have been found.

We have treated quite a number of cases of gonorrhea, just how many exactly I cannot say, but surely as many as one hundred, both acute and chronic, the latter predominating, a few times with the gonococcus vaccine alone, but commonly, and always now, with the remedies and measures usually employed in the treatment of this disease.

Acute gonorrhea is a disease of such variable virulence, subsiding in a very limited number of cases in persons whose tissues possess a marked power of resistance to the specific organism, in from a very few days to two weeks, under such a variety of remedies both local and general, and resisting all treatment in so many cases for a period of from four weeks to four months, that it is hard to judge accu-

rately how much influence the use of the vaccine has in producing a cure. We are entirely satisfied, however, that our cases progress better, that the discharge lessens and disappears quicker, and that the ardor urinae is less intense, and complications like chordee, epididymitis, and prostatic and vesicular inflammations are of less frequence and of milder type, when very small doses, 10,000,000 to 20,000,000 are used regularly from the beginning; and that the symptoms of the disease can be at any time aggravated by the use of large doses.

There are a vast number of men and women in whom the disease lasts from four months to forty years. It was related to me once by Von Langenbeck, the celebrated Berlin surgeon, that a great German general whose pluck and military genius early in the nineteenth century were a deciding factor in preventing the continent from becoming all French, contracted this disease when he was a lieutenant not more than twenty years of age, and still had it at his death, which occurred when he was past seventy.

We see many of these chronic cases. I may say that I see very many more of them than I do of those in the acute stage.

Our routine in all cases that apply on account of chronic urethral discharges, or irritable bladder, or obscure pains in sacral region, whether they have manifestly large prostates or not, is to carefully express the contents of the prostate and seminal vesicles into a sterile glass receptacle, and from this prepare cultures.

It is astonishing how often, under these circumstances, we grow the gonococcus. Many of these people deny honestly that they have ever had gonorrhea, but nearly always recollect and state at a subsequent visit that they had, five, ten, fifteen or more years ago, and Dr. Dillingham had one case recently who stated twenty three years ago, a slight case of urethral discharge which disappeared very easily.

In a very large percentage, probably eighty, of these very chronic cases we find the colonies of a Gram positive diplococcus growing side by side with the gonococcus. It has the same shape as the gonococcus, but instead of having an average length of 1.25, it measures from 2 to 2.50. We fail to find a description of such a Gram positive diplococcus, growing with the gonococcus upon nutrient agar plates spread with human blood, and hence are not able to give it a name. It corresponds in some respects with the stabchen diplococcus of Neisser. It seems to us, however, from the character of cases we find it in, and its association, that its part in the inflammatory process is not that of an innocent bystander. Such cases we always treat with an autogenous vaccine prepared from the growth of both organisms. I know that since we have added this therapeutic agent to our armentarium we cure these chronic cases in from periods of three months to one year, and I doubt very much whether we ever really cured any of them before. But we do not depend for the cure upon this remedy. We still treat all granular patches in the urethra by direct applications through the endoscope, dilate any strictures that may be present, massage the diseased prostate and vesicles, use urethral and vesical irrigations and instillations, and general tonics; but we do not waste time and money by administering balsamics, plain or in nauseous mixtures.

When I say we cure, I mean by a cure the entire subsidence of the symptoms, along with the inability to any longer cultivate the organisms, after several trials three or four weeks apart.

The use of vaccines prepared from the Colon Bacillus and Pyocyaneus where these organisms were the evident agents of infection. My experience with the vaccines of these organisms has been confined to five cases of chronic cystitis. I cannot honestly say that I have seen any benefit from their use in any one of the five cases.

Finally to correct any misapprehension as to our position as to the value of all vaccine treatment in urinary diseases.

It is a + therapy. It is to be added to the ordinary approved methods, used as an adjunct, and not to be depended upon ever as a specific method of curing the disease which may be in question.

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## THE TREATMENT OF GENITO-URINARY TUBERCULOSIS WITH TUBERCULIN.*

By F. M. POTTENGER, M. D., Monrovia.

I regret very much that I am unable to bring before you a paper based upon practical experience in the treatment of tuberculosis of the genito-urinary tract by means of tuberculin, but my experience in this field is entirely too limited to make this possible. However, I believe that a paper dealing with the theoretical application of tuberculin with the report of a few cases treated by it will be of some help to those who are attempting to handle these cases.

Inasmuch as our line of therapy in any given disease depends upon our conception of the nature of the disease, it is well at the outset to discuss the nature of tuberculosis. Tuberculosis belongs to the class of infectious diseases—that is, it is a disease produced by a specific micro-organism which requires certain conditions for its growth and which always produces certain conditions in the tissues in which it is implanted. No matter where the tubercle bacillus finds lodgment in the body, it starts up certain definite changes in the tissues. Certain definite phenomena occur. The bacilli endeavor to fortify themselves and the tissues endeavor to destroy them. Resulting from this struggle, we have those conditions which produce the visible tubercle and the changes which it subsequently undergoes, and the invisible phenomena attendant upon the stimulation of the physiological processes of immunization.

The etiology and pathology of tuberculosis are the same whether the focus of infection be in the lungs, the larynx, the bones, the genito-urinary tract or

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

any other tissue. Of course, the pathology differs somewhat as do the tissues in which it is located, in that the disease process must conform to the specific tissue involved and it must be influenced somewhat by the function of the organ in which the focus is located; yet, in the essential pathological features, and in the features which make for cure, there is no difference. While it must be recognized that such infections as tuberculosis of the bones and joints where the parts can be put at rest and kept so without any foreign irritants interfering, or tuberculosis of the glands where the same conditions obtain, and where further the parts are constantly bathed with lymph which is the carrier of antibodies, are easier to cure than tuberculosis of the lungs (except in the early infections) where the parts are kept in constant motion, or tuberculosis of the intestines where the parts are constantly bathed with the irritating intestinal juices, or tuberculosis of the larynx where the part is kept constantly irritated by speech, coughing and the passing of secretion from the lungs below, or tuberculosis of the kidney and bladder where the parts are constantly subjected to the irritation produced by the presence of urine; yet, aside from these differences incident to the location of the lesion, the cure in all instances is the same and is brought about by the action of the toxins which are elaborated by the tubercle bacilli (tuberculins) acting upon the body cells and causing them to produce protective substances whose function it is to destroy the bacilli and their toxins. In order to grasp the rationale of cure we must not lose sight of the fact that tuberculosis is an infectious disease and like all of this class has a tendency to cure itself. Within the bounds of its own pathology lies its own cure.

Tuberculosis of the genito-urinary tract is probably always secondary to tuberculosis of some other organ in the body, the infection having been carried from the original focus by the blood stream. While we may not be able to locate the primary lesion, yet a moment's thought will show that a primary focus in these parts is practically impossible.

It might be profitable to pause for a moment and study the phenomena attendant upon the healing of a tuberculous focus. There are three factors in the cure: the stimulating toxin which is a product from the tubercle bacillus, produced either as a secretion, an excretion or as a result of the destruction and disintegration of dead bacilli; the cell which receives the stimulation of the toxin and under favorable conditions responds by producing protective substances which tend to destroy the bacilli and their toxins; and the application of the protective bodies at the seat of infection. The action of every remedy which is specifically directed toward the cure of tuberculosis must act in one of these three ways: it must furnish the specific stimulating toxin for the cells, influence the cells in such a manner that they will be able to respond more fully to the stimulation or aid in bringing the protective bodies in a more direct application to the bacilli and their toxins.

If a tuberculous focus heals spontaneously, it does so because the stimulating toxin was furnished by the patient in the proper amounts, the cells of the body were in the proper state to respond and the conditions about the focus were favorable for the direct application of the antibodies. Where failure results, any one or any combination of these factors may be at fault.

In this connection it is interesting to discuss the evolution of the treatment of tuberculosis. The first measures that were applied were those which have a tendency to aid the cell; rest from work and business worries, change of climate, open air, good food and ordinary medicinal tonics. These were able to convince many unwilling minds that tuberculosis is a curable disease; but such measures were often disappointing, even in early cases where it seemed that they should have succeeded. Nevertheless, it is due to this class of remedies that the curability of tuberculosis was established.

From the fact that so many of the measures which were directed toward the cure of tuberculosis were associated with open air, such as change of climate, a stay in the country, an open air occupation, a trip to the mountains or a sea voyage, many erroneous opinions gained credence as to the manner in which the cure was produced. Those who observed the cures in the mountains ascribed the cure to the altitude and fancied that there was some certain altitude which conferred immunity to tuberculosis; those who saw the cure result from sea voyages thought that there must be something specific about the sea air and decided that it was probably the greater content of ozone; while those who saw favorable results in low altitudes near to or distant from both mountains and sea thought it must be due in some mysterious way to the open air. The truth is that tuberculosis can be cured in all climates. Neither the air of mountain, sea nor plain has any specific action upon the disease, but each is of value, as it reacts upon the patient, improving his various bodily functions and increasing his nutrition, thus preparing the body cells for a ready and full response to the stimulation of the tubercle toxins. An open air life is the natural life and the one which is most conducive to bodily strength and vigor, one of the conditions which is most favorable to the cure of tuberculosis.

The production of tuberculin and its application to the cure of tuberculosis in 1890-1891 marks the first application of the artificial introduction of the specific stimulating toxin in the cure of tuberculosis. Owing to the lack of knowledge of both the remedy and the disease on the part of those who were carrying out the first clinical test of tuberculin, the results were disastrous and tuberculin received a blow from which it has not yet entirely recovered. It seems very difficult for a conservative profession to divorce from tuberculin the harmful results which came from the wrong use of the remedy when it was first introduced. This attitude, however, has about as much to commend it as the attitude of society in ostracising a man because he had served a term in the penitentiary, although never guilty of the crime for which he was convicted. To-day, the principle upon which tuberculin therapy is based is

established and the remedy is being constantly successfully applied in the cure of the disease. To be sure the best method of its employment may not yet be known, but its value is established beyond doubt. This is the great advance in the rational treatment of tuberculosis.

With the proper administration of the two classes of measures mentioned above it is possible to greatly increase the specific antibodies in the blood and raise the patient's resisting power toward the tubercle bacillus. Still we may not cure the patient, for the antibodies may be prevented from acting upon the bacilli. As a means to overcome this we attempt to divert as much blood to the focus of infection as is possible; in other words, we attempt to produce a localized hyperaemia about the focus. This is the last but not least important of the three classes of measures necessary to cure. In some locations it is easy to obtain, in others, difficult. In all, it is easier, the slighter the infection. In genito-urinary lesions this is quite difficult, save as it is produced as a result of the tuberculin reaction, except in tuberculosis of the testicle, where a hyperaemia may be produced by applying a piece of rubber tubing about the scrotum and penis in such a manner as to obstruct the return flow of blood.

It will now be readily understood that a combination of all these measures is necessary to produce favorable results. It will also be understood why fresh air and tonic measures alone so often fail, and why many cases which refuse to yield to these respond readily when tuberculin is added. It will be further understood why even when both classes of measures are faithfully and intelligently applied, there are still cases which will not get well. In spite of these failures, a combination of these three measures constitutes nature's method of cure and has to recommend it the fact that it is rational and that the same treatment tends to cure tuberculosis wherever the lesion or lesions are found. If it succeeds, it cures the patient without any unnecessary loss of tissue and without the needless sacrifice of important organs. Its rational and conservative nature commends it and recommends its trial before surgical intervention, unless the case be one which demands immediate surgical attention.

Heretofore the treatment of genito-urinary tuberculosis has been considered as surgical where that was possible, and where not possible the case has been looked upon as practically hopeless. Therefore anything that offers hope, even though it be uncertain, is welcome. What percentage of cases of genito-urinary tuberculosis can be successfully treated by the hygienic-dietetic-open-air treatment when intelligently combined with tuberculin, I do not know; but every one that can be so treated is so much gained over the old method. One of the unfortunate occurrences in connection with operative procedures has depended upon the impossibility of determining whether or not other foci which were equally dangerous were present. Quite often one kidney is removed and after a short time the other also shows signs of disease; a testicle is removed and in a short time proof of other lesions in other parts of the tract are evident; or an ovary or tube is removed to be followed soon by disease of other parts of the genito-urinary system. These occurrences are sufficiently common to make us halt and consider any other method that offers a reasonable hope of eradicating the disease from all foci; and especially if this hope is accompanied by the possibility of saving important organs, and if at the same time it does not jeopardize the health or life of the patient. While I would not go so far as to claim this to be the only treatment for tuberculosis of the genito-urinary tract, yet I believe that it is sane teaching to advocate a fair trial of tuberculin supported by hygienic measures in all cases before operative procedures are resorted to.

Since the introduction of tuberculin in the treatment of tuberculosis many observers had reported cases of genito-urinary tuberculosis which had healed; but, little attention was given to these reports until the work of Wright seemed to offer a method of administering tuberculin in these cases which appealed to the profession as being unattended with danger. While the later experience of nearly all clinicians seems to establish the fact that the opsonic index does not need to be taken as a guide in the administration of tuberculin, yet the work of Wright popularized tuberculin and presented it to the members of our profession in such a manner as to appeal to them and induce them to try it, with the result that patients with tuberculosis in all parts of the body are now being treated more or less successfully, according to the intelligence with which the remedy is being used, and according to the favorableness of the lesion for treatment.

My own experience consists of some half dozen cases which I have had under treatment for varying periods of time, only two of whom persisted long enough to gain a favorable result. With two exceptions my patients were all those in whom the genito-urinary tuberculosis was a condition complicating and of secondary importance to the disease of the pulmonary form. One of these exceptions was a case where the infection was located in the prostate and seminal vesicles and was secondary to a tuberculous testicle which had been previously removed. After two months' treatment during which time the patient made very satisfactory improvement he returned to his home in the east to carry out the treatment under his home physician, the result of which I have not heard. One of the other exceptions is now under treatment. While he has tuberculosis of the lungs, the lesion for which he was referred to me was particularly that of the prostate, bladder and kidney.

The two successful cases of tuberculosis of the genito-urinary tract which I wish to report are both of considerable interest. The first one was a case of tuberculosis of the kidney. The patient, a female, twenty-nine years of age, had suffered from a non-virulent type of tuberculosis of the lungs for eleven years. She had been aspirated for pleuritic effusion nine times and when first seen by me was in the

second stage (Turban) of pulmonary tuberculosis. For three and a half years she had suffered from albuminuria and hematuria and had been treated for nephritis. While under treatment she carried large quantities of albumen, occasionally passed bloody urine and on several different occasions passed renal calculi. Microscopical examination of the urine showed blood cells and tubercle bacilli. Unfortunately a catheterized specimen of urine was not examined so there might be a question in the minds of some as to the correctness of the diagnosis. Fortunately, for any who may have such doubts, on two different occasions I provoked a severe reaction in the kidney, accompanied by renal colic and hematuria by injections of tuberculin as will be explained later. When first put upon treatment, I accepted the diagnosis of nephritis which had been previously made, but soon noticed that the amount of albumen was influenced by the tuberculin. By watching the amount of albumen I soon learned that it could be taken as an indication of the kidney reaction and as a guide for dosage. Under a tuberculin made from human tubercle bacilli the pulmonary and renal condition both improved, in fact the pulmonary condition entirely healed out and the kidney at times seemed to be free from trouble as far as could be judged. Every now and then, however, symptoms on its part would manifest themselves. Returning from a trip to Europe, where I had seen some excellent results obtained by means of tuberculin made from bovine bacilli, I thought I would try it on this case and it was then that I secured the reactions mentioned above. Fortunately, I was very cautious in my dosage. My first dose was 1-100,000 mg. of P. T. O. (Spengler). This was followed by severe colicky pains and hematuria and accompanied by a marked rise of temperature. This was a great surprise to me, and especially so because the patient had been taking large doses of Watery Extract (von Ruck) without any signs of reaction. I was not convinced that it was not a coincidence, and after waiting for some little time, I again repeated the same dose with the same prompt recurrence of symptoms. After a few days the condition cleared up and no bad results followed. The patient was again put on Watery Extract and after treatment which lasted over a period of about two years, during which time the treatment was carried on with intervals of a few months of injections and a few months of rest alternating, the patient made an apparent recovery. She has been free from symptoms now for more than a year. The lesson learned here regarding bovine tuberculin has been borne out in other cases. My limited experience seems to indicate that genito-urinary tuberculosis is best treated by the tuberculins of human origin.

The other successful case is one of tuberculosis of the ovary, and as far as I have been able to find out, it is the first case of tuberculosis of the ovary treated successfully by the employment of tuberculin. This case was reported by Browning (Southern California Practitioner) and mentioned by me in a former paper (New York Medical Journal, Jan. 11, 1908). The patient was a highly nervous woman of twenty-four years. She had been operated upon by Dr. J. B. Eagleson of Seattle two years previously, at which time her right ovary was removed. Upon examination this proved to be tuberculous. The surgeon gave it as his opinion at this time that the other ovary would have to be removed for it also showed signs of infection, but owing to a promise made to the patient before the operation he was not free to do as he thought best, so the one was left. The patient left the hospital and returned to her home, but after experiencing considerable distress she returned to the surgeon who, upon examination, found the organ in such a condition that he advised immediate removal, to which the patient consented. After thinking it over, she came to the conclusion that any treatment that was good for tuberculosis of the lungs should be good for tuberculosis of the ovary, and instead of going to the hospital for operation she came to the Pottenger Sanatorium at Monrovia and insisted that we admit her. Fearing that we would not take her if we knew of her running away from the surgeon, she did not tell us this until long after. Having had no experience in treating tuberculosis of the ovary we were loth to admit her and told her that we could not promise her anything except that we would try. She insisted that that was all she wanted. Examination showed the ovary to be very much enlarged and very tender. There was also a slight lesion in the lungs. The patient was admitted to the sanatorium, put upon the ordinary hygienic regime and given tuberculin. After one year's treatment the pulmonary condition was apparently cured and the ovary had reduced in size, all tenderness had diasppeared, and it gave the impression of being healed. Owing to the inflammatory condition present, adhesions formed which at first gave her some trouble. About six months after leaving the institution these became so aggravated that she visited a physician who gave it as his opinion that the disease had again become active and that she would be compelled to be operated. She came back to the institution again for examination and the same condition was found as existed on leaving. She was again given large doses of tuberculin without reaction, so we felt sure that no infection remained. We were warranted in this opinion not only because of the general tendency for tuberculin to cause a reaction where tuberculosis exists but also because in this particular case pain in the ovary was always set up when large doses of tuberculin were given as long as the infection remained active. It is now more than two years since she was discharged and she still remains well, so we are warranted in calling this a cure.

These two cases are very interesting and instructive, and while the number is too small to warrant any conclusions, yet they point the way, and indicate that tuberculosis of the genito-urinary tract should receive the same treatment as tuberculosis of other organs.

# THE RADICAL TREATMENT OF GENITO-URINARY TUBERCULOSIS.*

By GEORGE S. WHITESIDE, M. D., Portland, Oregon.

The very beginning of tubercle in the genital or urinary tract is not altogether a matter of speculation. The bacilli may find entrance either along the natural passages or the infection may be an haemotogenous one.

Both in the epididymis and in the testicle tuberculosis often begins with a symptomatic hydrocele.[1] The infection starts in the epithelium and in the walls of the seminal ducts as small gray-white nodules. These coalesce and form large cheesy deposits which often break down and become abscesses. Later these find vent through the skin of the scrotum. In the testicle itself the miliary form is the rule. Large nodules often develop from the coalescence of small ones, but abscess forms only at a very much later stage. Simmond's [2] describes a very early form of seminal vesicle tuberculosis. He reports 15 cases in which tubercle bacilli were found in the spermatic fluid. Apparently these cases showed a very early catarrhal infection of the vesical mucous membrane without other evidences of disease. Only a very careful search with the microscope can reveal such cases. Symptoms are slight and not noticeable. The patient usually does not apply for examination until some definite symptoms call his attention to his condition. Consequently, the infection has obtained a firm hold before he comes to the surgeon.

Teutschlaender [3] reports 57 cases of Uro-Genital Tuberculosis in which 31 had involvement of the seminal vesicles. He also collects from literature 232 cases in which 119 had seminal vesicle involvement. Of his 31 cases, 11 were on one side and 20 were bilateral infections. Only 1 was diagnosticated clinically. The other 30 were found at autopsy. In 2 of these later there had been spontaneous cure.

These statistics show us that the disease is usually not confined to only one part of the uro-genital tract and also that only 3% of existing cases are sufficiently advanced to be detected by any usual examination of the patient. It also gives the significant fact that only 6% of all cases recover spontaneously. In fact, although the primary lesions are oftenest found in the epididymis, it is not long before the testicle, vas deferens, seminal vesicles, prostate and even the bladder and uretha become involved. From the bladder it is an easy step to the kidney. Sometimes a primary haemotogenous infection begins in the kidney and descends along the urinary passages until the entire uro-genital tract is involved.

When one considers the usually fatal outcome of genito-urinary tubercle and the pitiable picture presented by one in the later stages I think the following case a remarkable success:

Mr. H. K., 38 years old, single, consulted me in October, 1902, and gave the following history:

In 1893 Dr. Willy Mayer did left orchidectomy for tubercle of the epididymis. In 1894 Dr. Bolton Bangs did combined suprapubic and perineal currettage of the bladder for tubercle. Since then he has spent two years in Arizona and six years in New York. Has gained 10 pounds in weight. Feels well. Has had no symptoms for seven years. Wants to get married and so consults me. Cystoscopy shows a perfectly normal bladder except for scar tissue at the fundus where the suprapubic wound was and some small scars where ulcers were curretted. Physical examination of chest, abdomen, the other testicle and the prostate discovers no disease. Urine examination negative. I believe this man to be entirely well.

In order to show the reverse picture, I will recite the case of a man who came to me about the same time.

In 1903 Mr. X. consulted me. He said he was 45 years old but his general appearance was that of a much older man. Hair, although abundant, very gray. Skin showing an extreme anaemia. He walks stooping and aiding himself with a cane. Gait slow, shuffling, feeble. Dyspnoea on very slight exertion. Physical examination shows with both epididymes, cords, seminal vesicles and the prostate infiltrated with nodules. On one side of the scrotum is likely a discharging sinus, evidently connecting with the epididymis or the tunic. Bladder contracted (capacity only 40 c.c.). Urination very frequent. Great tenesmus after emptying bladder. Urine about one-half composed of foul-smelling, ropy mucus and pus. Many tubercle bacilli present. Chest examination shows dullness, rales and increased sounds at both apices, lower behind than in front. Abdominal palpation discovers enlargement of both kidneys.

In fact here we have a young man of forty-five in the last stages of widespread tubercular disease, which, so he told me, began as a small nodule in the right epididymis four years before. He had been under the care of a physician who gave him cod liver oil, fresh air, extra diet, etc., etc., but in spite of such measures his disease progressed constantly.

[Contrasting these two cases one is forced to see the evident triumph of surgical treatment in the first case and the evident failure of general hygienic measures in the other.] If, as stated above, only 6% of all cases, however slight the infection, recover spontaneously, this is what common sense might predict.

If, now in addition to the removal of all possible diseased tissue, nature is aided to cure after her own fashion by the administration of tuberculin, our results should show further improvement. This theory works out well in practice. I have operated upon a number of individuals and followed it up with tuberculin treatment afterward with very gratifying results.

After studying 50 cases, Berger [4] comes to the conclusion that if the conservative treatment does not seem to give good results in a short time, more radical measures should be undertaken. His patients were between 10 and 80 years of age. Tuberculous family history in 7 patients. Infection of other organs in 12 patients. The tuberculosis followed gonorrheal infection in 4 cases, in 9 its be-

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

ginning was referred to an injury received 18 days to 11 months before evidence of the tubercle was apparent.

In regard to resection of the epididymis for tuberculosis. Bogoljuboff-Kasau [5] reports 166 cases from literature and 12 cases of his own. Reports healing of the tubercular process in the testicle after removal of the epididymis as a rule in all cases. In 22 cases of infection of both the testicle and epididymis where partial resection of the epididymis was practiced, healing resulted in 15. The disease appeared on the other side in 137 within an average time of 14 months. In 42 cases which were complicated by tuberculosis of the prostate and seminal vesicals, he resected the epididymis in 19, 15 of which were one sided and 4 double sided. He claims that cure of the tuberculosis of all organs resulted in 19 cases, but does not state how long after operation he was able to follow these cases.

Fuller [6] has performed seminal vesiculotomy for chronic gonorrheal infection of the seminal vesicles. He believes tuberculosis a contra-indication for operation. His statistics of the operation [7] showed 33 cases. No deaths.

From autopsy reports and also from my own clinical experience, I believe involvement of the entire genital tract to be much more frequent than is generally supposed to be the case. I, therefore, believe the former operation of resection of the epididymis entirely inadequate, as indeed the statistics above quoted would indicate. I also believe Fuller is right in advising against seminal vesiculectomy for seminal vesicle tubercular disease unless at the same time other infected organs are also removed.

I have, therefore, latterly practiced a very radical method of operation so as to extirpate as much tuberculous tissue as is practicable before placing the patient upon tuberculin treatment. I will report only my earlier cases to illustrate with what success the procedure had been attended up to the present time.

Y. A., 34 years old, single, was sent to me Feb. 15th, 1908. For two years he had suffered from frequent urination and gradually increasing pain in the bladder. Two months ago the right epididymis began to swell. Not painful. Now the testicle is involved in a large indurated mass the size of a goose egg. On the other side the scrotal integument is slightly reddened and a feeling of deep fluctuation is evident. Rectal examination shows the cord hard and as large as one's finger. Prostate contains nodules on the right and right seminal vesicle is indurated. Bladder capacity only 30 c.c. Tubercle bacilli in the urine. Dr. Yenney pronounced the lungs sound. Operation Feb. 24th at St. Vincent's Hospital. The right testicle removed through an incision extending into the inguinal region in the usual way. The cord was then freed from the surrounding tissues as far into the inguinal canal as possible, there it was clamped and cut off. Then the patient was placed in the lithotomy position and a semi-lunar incision, with its convexity anteriorly, was made extending between the tuber ischii. After dividing the central tendon of the perineum the rectum was pushed backward and by blunt dissection following the plane of the recto-vesical fascia, a deep pyramidal-shaped wound was made which gave easy access to the prostate and seminal vesicles. By pushing the finger up to the apex of this deep wound and by pushing downward on the forceps, which had been previously clamped to the cut end of the vas deferens in the inguinal canal, it was possible to push this clamp through into the perineal wound carrying the cord with it. By removing this anterior clamp and replacing it with another through the perineal wound, it was found possible to remove the entire spermatic cord with the seminal vesicle on the right side and the right lateral lobe of the prostate. It is important not to perform the prostatectomy first. Having thus excised all the tuberculous tissue which it was possible to reach, the anterior wound was closed without drainage and the perineal one was closed, leaving a small amount of gauze packing for drainage. The time of operation was almost three hours, owing chiefly to the difficulties attendant upon the removal of the seminal vesicles at the bottom of a deep wound. The patient was returned to bed in good condition, the gauze removed after 24 hours from the perineal wound. Convalescence was uninterrupted, the patient being up and about on the 10th day. On March 17th the patient was in good condition but complained that he still suffered from vesical tenesmus. He was given hypodermically 1-10.000 of a milligram of Koch's O. T. Serial dilution No. 1 as prepared by Mulford. The day after this injection the vesical symptoms were very much better. Frequency was less and pain relieved. On the 21st 1-5000 of a milligram was given with the corresponding good result. This was repeated on the 27th and 30th. By this time urination was much less frequent and the pain had entirely disappeared. The patient was then discharged from the hospital and went to Huntington, Oregon. There he came under the care of Dr. Spencer, who gave him two injections in the month of April, dosage not stated. In May, '08, the patient wrote to me saying that he felt well, had gained weight and was working in a sheep camp not far from Huntington, Oregon. Since he had not felt well enough to do any work for two years, the result was very gratifying.

In March, 1908, A. D., 28, single, consulted me and related the following history: August, 1907, contracted a gonorrhea. Treated by a doctor in Lewiston, Idaho. The discharge stopped in 6 weeks. In Jan., 1908, received a blow on the testicle. To this injury he refers the swelling of epididymis. Examination shows well developed and nourished man. Lungs, heart and abdomen negative. Right epididymis and testicle involved in a tumor almost the size of one's fist. Over the posterior aspect of this tumor the skin is reddened and a fluctuating spot toward the center of the hyperaemia area shows pus very near the surface. The spermatic cord, seminal vesicle and prostate involved on the right. Symptoms of bladder involvement very slight. No cystoscopic examination.

Urine, acid. Not much sediment. Small amount of pus. Tubercle bacilli not found. Operation March 12th, 1908. Technic similar to that described for last case. However, in this man the perineal part of the operation was much more difficult because his pelvic outlet was very narrow and the wound between the bladder and the rectum very deep. Also in this case venous hemorrhage was troublesome. After removal of the testicle with the cord and after removal of the strictures at the base of the bladder, it was found necessary to pack the perineal wound with gauze to stop the oozing. The tumor, after removal, was cut and the epididymis found to be merely a shell of thickened tissue forming the walls of an abscess. Other smaller abscesses were scattered through the tumor and in the seminal vesicle and portion of prostate removed. Time of operation three hours. Patient returned to bed in good condition; 48 hours later the gauze packing was removed from the perineal wound. The next day it was evident that injury, either at time of operation or from pressure of the gauze packing, had caused a fistula into the rectum. April 20th, five weeks after operation, patient left the hospital but the fistula in ano remained patent. April 10th the first tuberculin injection of 1-10,000 milligram. Koch's O. T. (Mulford) serial dilution No. 1 given. Patient not seen between May 1st and May 20th. Two injections given in May on the 20th and 27th. The last injection 1-5000 milligram tuberculin was given. This dose caused a rise of temperature and the usual signs of overdose. Consequently, I thought best to omit further injections until the fever had subsided. June 11th. The fistula in ano not having healed at all, the patient was given ether and the fistula cut through the sphincter into the rectum. July 30th. The wound of this second operation almost but not quite healed. Aug. 10th tuberculin injections resumed. 1-8000 milligram same solution given. Aug. 20th same. Sept. 1st 1-5000 milligram same. Note on this date is that the patient had gained 10 lbs. in weight, fistula entirely healed, feels strong and well. Is doing heavy, laboring work.

Oct. 5th has gained more weight. Same dose, same solution given without reaction or untoward result. Feels perfectly well. All demonstrable evidence of disease has disappeared.

March, '09. Examination shows no evidence of recurrence.

I believe these two cases of genito-urinary tubercle are well, or nearly so. Time alone can decide whether recurrence will follow. When we contrast the result after this very radical operation, and the administration of tuberculin, with the result of any equally advanced case treated with medicine or general hygienic measures, the difference in outcome is striking. On the one hand the patients have regained health and are well, on the other we so often see a broken down young man, suffering severely and awaiting death. The result is no better than in the first case related, which was operated by Dr. Bangs of New York, but I believe that was an exceptional case. However, it was this case that suggested to me that the very radical removal of all tuberculous tissue is advisable in order to give the patient a chance to overcome such infection as necessarily remains.

It is possible that tuberculin injections might suffice without preparatory operation, especially in the early cases. Indeed, in early cases I should advise trying it first but unless prompt improvement results more radical measures should be decided upon. These cases had advanced to abscess and it does not seem reasonable to expect the patient's organism to overcome such an infection by immunization methods alone.

The operation itself is a formidable and difficult one, but most of these sufferers are men otherwise sound and between 25 and 45 years of age. As yet I have had no fatal or even alarming results. I have operated, in all, twelve cases but the later ones are too recent to report at this time.

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### Discussion.

Dr. G. H. Evans, San Francisco:

In the number of papers presented so many points have been brought out that it is impossible to cover very much ground in the small amount of time allotted for discussion. I will endeavor to merely call attention to, or emphasize, one or two points which have not been brought out very clearly. First of all, the question of the radical treatment of bladder tuberculosis. It seems to me that we are in danger of losing sight of the fact that bladder tuberculosis is usually a descending process hematogenous in origin. If this is the case, then it seems to me from analogy we must recognize the fact that in order to cure a bladder tuberculosis, if the primary lesion can first be determined and removed, we have in such procedure the most logical means of a cure. I say this not giving up one iota of my enthusiasm for tuberculin therapy. The results achieved by surgeons where the focus is confined to one kidney will substantiate this statement. It is a fact, however, that the vast majority of bladder tuberculosis cases are cases where we cannot isolate and determine the primary focus, or where more than one kidney is involved, and it is here where we have a descending process, where both kidneys are involved as well, that our hope lies in the administration of tuberculin along with hygienic procedures. I do not believe that any surgical procedure applied to the bladder itself can be expected to be productive of anything but palliative measures. Dr. Pottenger has given us a comprehensive view of the theory of tuberculin immunity. He has done it in a way that seems to me can make it clear to any one the way tuberculins act. I am sorry, however, that Dr. Pottenger did not go a little further into the question of tuberculin dosage. It is here that the great danger lies. It is here that too many failures are recorded and even to-day it is here that tuberculin is being discredited because of the lack of thought and care taken in the matter of dosage, time of administra-

tion and proper selection of the tuberculin. I have seen harm derived from too large doses of tuberculin. I believe it is a safe rule in applying tuberculin therapy in diseases of the urinary system to establish a small maximum dosage and never under any circumstances exceed the amount. I believe that if Prof. Wright's work has done any good at all it has been because of the fact that he has shown the value of a maximum dosage that is far below the minimum amount used previously.

Dr. A. B. Grosse, San Francisco: I am in accord with the principles laid down by Dr. McConnell with one exception, and that is that in cases of tuberculosis of the kidney with a descending infection and a beginning bladder tuberculosis, I maintain that the kidney should be immediately removed and the bladder symptoms will very quickly subside. As to the use of the tuberculins, I have not had sufficient results to cite anything. The question of vaccines in the treatment of urinary diseases is of tremendous interest. I have taken this occasion to rise immediately after Dr. Reinhardt in order to give you the other side of the question. My work in vaccines has been done with the assistance of Dr. Ryfkogel, and we have been very careful in their preparations, but in spite of the care taken we have had some of our vaccines fail us. Our vaccines sometimes become inocuous in a very brief time and the patients will then not improve under them. The mental effect cannot be taken into consideration. The patients do yield frequently to the stock vaccines although by no means as readily as to the fresh autogenous vaccines. With gonorrhoeal infections my experience has been practically only with the stock vaccines. In the treatment of acute gonorrhoea I find that the doses must be tremendously small, just approaching a slight reaction. In mild or chronic cases a larger dose can be given. Another thing, the local treatment of the gonorrhoea must cause an inflammatory condition, that is, a flow of blood to the part rich in opsonins. For instance, in gonorrhoeal prostatic trouble massage will bring blood, without the massage we will get no reaction and no results. I have had some of the most wonderful results in the use of the streptococcus vaccines, particularly in the bladder and urethral cases. One case, a man of 80 years of age, had an infected bladder and went from bad to worse. I made a culture and obtained a pure culture of colon bacillus. I then gave him the vaccine treatment and stopped all internal medication. The man became perfectly normal under this treatment. About the middle of December he became worse again and the vaccines did not do any good. In January I made cultures and found streptococcus besides the coli infection. The man was looking very badly and urinating about every 15 minutes, and that evening after injection of streptococci vaccine, he did not urinate for five hours.

Dr. J. J. Hogan, Vallejo, Calif.: I have had very little experience with the treatment of urinary tuberculosis with vaccines, but going back for a period of two years I have had experience with other infections of the urinary tract, and think that there is one point to be brought out, and that is the question of accurate diagnosis. For the past two years I have stained a centrifuged specimen of every urine coming to me, and have made my diagnosis with the help of this method, where otherwise the cause of the trouble would have been overlooked. Patients coming in with a diagnosis of acute nephritis have turned out in many instances to be infections of different types. Another point to be made is the dosage and I think that at the present time we are only on the threshold of this work. On the 17th of last month I took a blood culture of a case of phlebitis which had been running a clinical typhoid for a month. He had been running a temperature with a leucocytosis and the man was not doing well, the temperature varying from 102 to 104. A pure culture of staphylococcus aureus was obtained. An autogenous vaccine was made which contained 300 million to the c.c. and the directions were that 1/3 c.c. was to be given. By mistake his attendant gave 1/3 of the whole amount of vaccine sent, which contained 1,500,000,000 or fifteen times the dose. The temperature dropped within a few hours and remained subnormal for 36 hours with general improvement. Within a few days they gave him another dose of 150,000,000, and on the following day another dose, and the temperature dropped and did not rise again. This case demonstrates a point that is borne out, by my experience, that large doses of the staphylococcus must be given in some cases in order to get results.

Dr. R. L. Rigdon, San Francisco: If we are not on our guard we will find ourselves growing into the habit of treating these cases of tuberculosis with vaccines simply because it is the up-to-date thing to do, and then, too, it is so easy to give a hypodermic injection, and these poor patients are so eager to grasp at any straw that may point toward the road to recovery. It is not at all sufficient that a diagnosis of urinary tuberculosis be made but the definite localization of the lesion or lesions must be insisted upon, and if the kidneys are involved the functional capacity of each must be determined. Not seldom both kidneys will be found the seat of pathologic changes, but the capacity of each may be functionally sufficient. Manifestly surgical interference with a nephrectomy in view could not be expected under such circumstances. But, perhaps while both kidneys are involved, one organ has been almost wholly destroyed and is functionally a negligable quantity while the sister organ may be only moderately invaded by the tubercular process and have ample functional capacity. To leave the badly crippled kidney in place and permit it to continue by its poisonous secretions or products to overload the system with toxins and thus put double work of elimination upon the already suffering sister organ would be bad practice. Common sense and experience alike counsel the removal of the incapacitated kidney by surgical means. We must not permit the promising and alluring field of vaccine therapeutics to interfere with the thoroughness with which we investigate our cases.

Dr. G. S. Whiteside, Portland, closing discussion: It is extremely important in operating that the tuberculous material should not be broken but removed as rapidly as possible from the wound, and it is important also that the vas deferans should be removed as completely as possible. If these things are done the result will be as in the case I reported, where. after the operation, the man received tuberculin treatment for a time and within two months after the operation he was in eastern Oregon riding on a sheep ranch. For two years before he had been incapacitated for business life and two months after operation and after a short course of treatment with tuberculin, he was able to ride horses on a sheep ranch.

Dr. F. M. Pottenger, Monrovia, closing discussion: With regard to the removal of the diseased kidney I will say that I do not think one kidney should be removed without a catheterized specimen from the other kidney. Tuberculosis of the kidney is not always active. We might have a left kidney involved and have the right kidney show nothing upon catheterization at the same time, and then the next week we might get the tubercle bacilli from both sides. This is characteristic of tuberculosis. The vaccine therapy for tuberculosis, in the hands of a careful man, will bring good results—if it is used intelligently the results will be good.

# SURGICAL SHOCK.*

By DAVID POWELL, M. D., Marysville.

"Crushing injuries of the extremities caused by railway accidents and machinery, furnish the largest percentage of grave cases of shock." (Senn.) Surgical shock is often the most important symptom of general injury involving the nervous system and vital organs of the body, and also parts not essential to life. Indeed, in all serious railway injuries, the most urgent condition that demands attention, after the arrest of hemorrhage and the relief of pain, is shock—"a sudden depression," as Bailey defines it, "of the functional activity of the general nervous system."

Its pathology is very imperfectly understood, and regarding it the most diverse views have been held by those who have given the subject special study. The importance of shock was first recognized by English surgeons many years ago, and little has been added to our knowledge of the subject since the writings of Pirogoff, Jordan, Savory and other early writers. Travers, the senior surgeon of St. Thomas Hospital in 1826, states "that teachers and writers at that time seem to have contented themselves with the bare statement of its observation, either from the impression that, being equivalent to immediate unavoidable death or due to an idiosyncrasy, moral or physical, the further consideration of the subject in a practical view was unavailing."

The literature of the subject since that time has been considerable, yet few writers attempt to define the cause and nature of shock. Its pathology is usually passed over briefly, and the term has been employed indiscriminately to describe "all cases of sudden death following injuries without hemorrhage, to non-vital parts." Senn, in one of his lectures delivered in this city a few years ago, said that the "experimental work done so far, and the clinical observations made afford us but an incomplete insight into the nature and etiology of traumatic shock."

With the purpose then of eliciting a discussion of the subject, rather than with any intention of attempting to present any facts or conclusions not already familiar to you, I have ventured briefly to call your attention to a condition of almost daily observation among railway surgeons, as a constant accompaniment of all grave injuries, and not infrequently following traumatism of a trifling nature.

The importance of the subject from a professional and medico-legal aspect is emphasized by the well-known fact that shock often appears to be the sole determining cause of death, as illustrated in the following case:

Sept. 30, 1905, L. A. S., 14 years of age, was indulging in the hazardous pastime common among boys of his age, of jumping on and off freight cars while switching in the railroad yards at Marysville. He fell under the wheels and sustained a compound, comminuted fracture of the left leg. He was carried into a nearby house, and I saw him within a short time. He was conscious, free from pain, and had lost but little blood. Had him removed to his home a few blocks distant. While he was fully conscious and able to relate the details of the accident, the patient was depressed and apathetic and presented all the symptoms of severe shock. The face was pale, the skin was moist and cold, the pulse soft, rapid and feeble, respiration shallow and temperature subnormal. Under administration of stimulants and warm applications he revived and immediate preparations were made for operation.

Under ether anesthesia a thigh amputation was made and the patient was removed without unnecessary delay to a warm bed in fairly good condition. Upon recovering from the anesthetic, however, he again showed symptoms of collapse, and notwithstanding every effort was made to revive him, he died three hours later from shock.

The two principal theories as to the nature of the shock are based on functional disturbances in the vascular and nervous systems respectively. To which shall we attribute the prime etiological factor in the sudden and unexpected ending of this unfortunate young lad's life? With health, buoyancy of youth, and absence of all debilitating influences in his favor, even the crushing of a limb, followed by a rapid and carefully performed amputation would scarcely presage a fatal termination.

In the absence of hemorrhage it seems the consensus of opinion that shock can be explained only by assuming a permanent or temporary paralysis of a reflex origin-centering, according to Groeningean, who has made one of the most thorough and complete studies of the action of the nervous system in shock, on the splanchnic nerve. His experiments are supported by Bizold and Bever, who found that section of this nerve was followed by accumulating blood in the paralyzed abdominal vessels, especially the veins, while the vessels not damaged by the nerve section were found to contain a comparatively small quantity of blood. So also the functions of the cord may be paralyzed or reduced to a minimum, and among these functions must be included not only sensation and motion, but also those which preside over the heart, the vasomotor nerves, and respiration. The brain apparently does not participate, the mind is clear and it is rare that stupor, coma or delirium is present.

Case II. About three months ago a young tramp, 19 years of age, while "riding the brakes" of a fast-moving freight train, fell under the wheels and his right leg was crushed from several inches above the knee to the ankle. He was brought to the station at Marysville, where I saw him within a few minutes after the injury was received. His companions, with unusual presence of mind, had tied a handkerchief tightly about the limb and the hemorrhage had been practically nil. The patient presented all the characteristic features of severe shock. He lay on a cot at the station indifferent, apathetic, listless and apparently did not realize the gravity of his condition. Mentality clear but sluggish. Responded to questions slowly but rationally. Surface of the body cold and bathed with a clammy perspiration. Pulse almost imperceptible at the wrist, weak, threadlike and irregular. Face pale, lips bloodless, fingers and nails blue. Eyes sunken, staring and expressionless, pupils dilated but responded sluggishly to light. Temperature by rectum 96° F. Respiration shallow and sighing. Did not complain of any sensation of pain except when the limb was moved or disturbed. Gave him morphin 1/6 grain and a 1/30 of a grain of strychnin

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hypodermically; wrapped him warmly in blankets, and had him removed to County Hospital. Saw him two hours later with county physician, Dr. Stone. Condition somewhat improved; body warm, color better, pulse stronger but still weak and rapid. Ordered digitaline hypodermically, two ounces of brandy by rectum, and quart of warm salt solution in subcutaneous tissue of abdominal walls.

As soon as necessary preparations were completed, the patient was anesthetized and the limb amputated at middle third of thigh. Although there was no loss of blood during the operation, which, with the subsequent dressing occupied but a few minutes, the patient, soon after being removed to the ward again, presented all the symptoms of grave shock. Pulse almost imperceptible. Face blanched, respirations shallow and irregular. Gave nitroglycerin hypodermically; brandy and hot salt solution by rectum and subcutaneously; oxygen and nitrite of amyl by inhalation; but there was no improvement, and in less than an hour after he was removed from the operating table he was dead.

Would the result have been different if the operation had been delayed and more time given for a fuller recovery from the shock of the injury? I am inclined to believe it would. But the prognosis of shock is at all times doubtful and uncertain. If under appropriate treatment reaction does not take place within a few hours a fatal termination may be expected, and in the meantime all surgical operations requiring anesthesia are contraindicated.

The moment when to operate in a case of shock is a point in which the practice of many experienced surgeons differs. Nevertheless, the consensus of opinion at the present time is opposed to operations that can be postponed until the patient has rallied from the immediate effect of the injury.

While the treatment of shock is largely symptomatic, fortunately much can be done that may enable the patient to acquire sufficient strength to carry him safely through the ordeal of an operation. First in importance is rest in a recumbent position with the foot of the bed elevated so that the weak heart may be able to nourish the exhausted vital centers with blood. Next is the application of dry heat to the body and extremities, and the administration of stimulants; of the latter strong black coffee and brandy are valuable. Hot normal salt solution by rectum, and intravenous infusion or hypodermoclasis of same should be employed. Electric stimulation, the inhalation of oxygen and nitrite of amyl are rational remedies, especially when the respiratory function is threatened.

Of drugs, digitalin hypodermically and opium in small doses may be given first place. Eserin has been recommended as of special value in shock, and the well-known therapeutic value of strychnin and nitroglycerin as agents for a failing heart should not be overlooked.

Finally, what can be done toward the prophylactic treatment of shock? Free stimulation with alcoholics, strychnin and morphin in appropriate doses prior to the administration of the anesthetic, are of value in minimizing the danger of anesthesia, and the shock incident to a serious operation.

Again many details which on ordinary occasions seem important should be sacrificed to the more important element of time. Cheever has called attention to the relation of the operative procedures of modern surgery to shock, and raises a warning voice against many of its attendant dangers. "Operations under anesthesia often needlessly prolonged are exhausting, and elaborate modern dressings are apt to be tedious and chilling. Undue haste involving lack of thoroughness is, of course, to be deprecated, but what in the old methods, before the day of anesthetics was a matter of moments is now too often one of hours."

Inasmuch then as many of the features of aseptic surgery have been simplified may we not, sometimes as a life-saving measure, aspire to add to modern skill the speed, in operative procedures, of a former generation?

### Discussion.

Dr. O. D. Hamlin, Oakland: The question is one in which I am considerably interested, and I so suppose one in which every man who is doing surgery is interested. As Dr. Powell has told us, the pathology of surgical shock is somewhat unknown. Dr. Crile of Cleveland has done more in his laboratory to find out just what the pathology is than any other man. I have had the advantage of seeing some of his work. The question before us in emergency work when a case is brought in injured, such as the case which Dr. Powell reported, where both or one limb is crushed, is that patient suffering from shock or from hemorrhage. In the laboratory work these things can be defined, but as to whether that patient is suffering from loss of blood or shock or concussion is very important. One of the quickest means is not alone by blood pressure but by the specific gravity of the blood which can be quickly taken. The ordinary instrument used in the examination of urine, if at hand, is a great help. The specific gravity can be taken by using a solution of chloroform and benzine. Put this in until you get the specific gravity to 1059, which is the normal specific gravity of the blood. By putting a drop of blood into this solution and then taking the specific gravity and then adding the benzine or chloroform until you get the specific gravity with the drop of blood suspended in the middle will give you a pretty good idea as to whether it is a question of shock or hemorrhage. If it is hemorrhage you have a decreased specific gravity, if shock the specific gravity may be normal or increased. This also holds good in concussion. Dr. Powell mentioned the use of digitalin in shock. I think this under some circumstances is a very good drug, but the ordinary use of stimulants, such as strychnin, digitalin, nitroglycerin, etc., in shock should be usually condemned. I think digitalin is the best of the lot. Dr. Crile has proved that strychnin and nitroglycerin increase the shock rather than decrease it; his experiments show that the pathology of shock is due to the vasomotor disturbance or the relaxation of the vasomotor contraction. He has proved that only one drug has brought the blood pressure up immediately, and that is one of the means to determine whether the patient is improving by the use of the blood pressure instrument. Adrenalin is undoubtedly the drug to use in these conditions to bring up the blood pressure. The physiologic action of adrenalin is very short lived. After thirty minims of adrenalin hypodermically you will find that the blood pressure

rises from ten to thirty points. Crile, in his late book just printed a short time ago, gives a series of experiments on shock and concussion where the condition has been increased by strychnin and nitroglycerin. Nitroglycerin undoubtedly adds to the condition which you already have. The nitroglycerin takes up the slack of the circulation and forces the blood out of the great splanchnic vessels. I think that the foot of the bed should be raised as the pathology shows an anemia of the central parts which need nourishment, raising the foot of the bed gives these parts as much nourishment as possible until the patient is over the period of shock. If the shock is due to hemorrhage a saline solution is undoubtedly ideal treatment. If on the contrary there is shock without hemorrhage the saline is still indicated but limited, because the addition of a large amount of fluid in the blood vessels with a very weak acting heart which has no central nerve supply, only makes the shock greater, and too much saline can be given in cases of shock although a limited amount with the addition of adrenalin usually shows improvement in the condition. That improvement may not last long. In severe cases where death occurs there is improvement for a short time, but the question of over-stimulating a weak heart during shock is very important, and some of the stimulants used as a routine ought to be condemned. Surgical shock has been classified under four different headings: that due to vasomotor disturbance without hemorrhage, that due to hemorrhage or collapse, and that due to toxic infection from the anesthesia after operation. And again you have the surgical shock following mental disturbance. We all know that some people after a very minor operation suffer severe shock and that of course is due to mental shock. That type of patient can often be diagnosed before operation. I think that alcohol has been proven to be a most successful thing to be used if necessary before operation, because it does certainly relieve the mental condition. The shock due to a mental condition is not usually severe and does not terminate seriously or give us trouble and worry. Shock due to hemorrhage and vasomotor disturbance is very serious. Regarding the question of amputations in severe cases where both legs are crushed should be done immediately or not, I think it is a question of very great importance. In my experience I have found that the cases which I have held over for eight or ten or twenty-four hours, have had a second shock, which seemed to me to be greater than the first, and I have lost my patient. I have recently, especially in amputation of the leg, which is more common, injected cocain into the sciatic nerve, giving very little anesthesia, and at times I have used the lumbar anesthesia. Otherwise I have used injections of cocain of 1% or sometimes ½% solution of cocain into the sciatic nerve, and I have found that applying the blood pressure instrument, the von Recklinghausen, is of some importance in cutting off the sciatic nerve. I think in leaving exposed surfaces we increase the shock. In burns, etc., large surfaces of nerve endings are exposed which produce this result. Amputation can be done in a very few minutes; it is not necessary to do the flap at that time. We can quickly saw off the bone, tie up the vessels and get our amputation over with. Then if we need a second amputation in a couple of weeks the patient is in good condition to do anything we like. The fine flaps can be done at a later date. Unless the patient is suffering too great shock it is of course better to wait a little while before amputating but the thing is to amputate the limb immediately because the second shock is greater than the first, and I think the reason is because you have to leave a large surface of nerve exposed all this time.

Dr. W. I. Terry, San Francisco: I differ with regard to the use of adrenalin in cases of shock in so far as it is so transitory in its effect. A hypodermic will tide a patient over a minute or two minutes at most, then the adrenalin is oxidized. If your patient is about to die there is nothing quicker than adrenalin injected peripherally; if the patient has stopped breathing and the heart has stopped beating, we can resuscitate that patient by injecting adrenalin with normal salt solution into the brachial artery. The brachial artery carries this to the heart and starts it beating, but if this is not done within six minutes we cannot get any response, and if you have a complete anemia of the brain persisting for two minutes, although the patient may be revived and the heart continue to beat, the patient will be a decerebrate. Dr. Crile told me just a few months ago that he had revived two patients within six minutes after death who had lived 48 hours, but they were decerebrates. This of course applies to extreme cases. The ordinary case of shock that is met does not go to such an extremity. If the patient needs to be tided over for a minute I believe in the use of adrenalin and follow that up either with salt solution, in case of shock due to hemorrhage, or camphorated oil, or caffein in large doses, 2-4 grains, hypodermically. In addition, of course, posture, heat and very often anemia of the extremities by bandaging to keep the blood in the heart and the brain, are advisable. And if you have to keep up the stimulation digitalin or some form of digitalis is of value. I am glad Dr. Hamlin spoke of the danger of too much salt solution—you can certainly drown your patient with too much.

Dr. Henry Hildreth, Delano: This is a question which has occupied my attention for a good many years. I have had under my care a great many injuries. I find that in many excessive injuries we have a spasm of the stomach. I have noticed it for a good many years, but I do not know what causes it; it is a nervous spasm contracting the stomach walls until they are hard. I confess that I have seen several patients die without relaxation until that relaxation which accompanied the post mortem condition. On one occasion I had a patient whose both legs were crushed in a railroad wreck: there was no hemorrhage. My experience has shown that the railroad injuries do not bleed, the vessels being crushed. In this case which I mentioned the patient refused to respond to the means of treatment suggested by both the gentlemen who preceded me and the patient's friends. I concluded to try him once more before turning elsewhere for aid, and administered apomorphin. The stomach immediately softened up and the pulse came up, and I was able to take him to the hospital, where I had two expert surgeons remove his mutilated limbs. I have used apomorphin in this case with excellent effect. When you think a case is moribund it might be tried. Another point in operations during shock, I would avoid the use of the anesthesia altogether. My opinion is that the effect of the anesthetic is contributory to necropsy and not to recovery. What I have to state is merely suggestive, but I hope you will bear it in mind if you do not adopt the idea.

Dr. Robert W. Miller, Los Angeles: I am very glad to have heard this paper. There are perhaps very few conditions indeed in which we feel greater solicitude and in regard to which we realize that we have less definite knowledge as to what to do and what not to do. One speaker has called attention to a very important point in this connection, namely, that not all of these cases pronounced "shock" are shock pure and simple. Unless we give this subject study, we shall fail to recognize the real condition with which we are dealing and employ the proper treatment in due time. If the

depression be due almost wholly to the effect of the anesthetic, the therapy must be directed accordingly, and such agents as strychnia, nitroglycerin, and a reliable derivative of digitalis, should be employed. In doing work about the throat and the mastoid, I have seen a number of cases that have called my attention very forcibly to the importance of surgical shock. I quite agree with the speaker who referred to the avoidance of the use of such agents as nitroglycerin, alcohol and other vasodilators in cases of uncomplicated shock. Agents that act as stimulant to the respiratory and circulatory system in other conditions, do not necessarily act so in cases of shock. When we have had considerable depletion from hemorrhage, the use of heat, hot water per rectum, and normal salt solution endermically are of great value. Another agent which has not been mentioned is the faradic current. All who have had recourse to it have found that it very promptly supports a flagging heart. I am not speaking from personal experience with it in cases of shock, but it occurs to me as one of the things which we ought not to forget.

In regard to the use of suprarenal extracts in one form or another, it is unquestionably a very prompt and valuable agent, yet its effect is transitory, whether you use it for a local or constitutional effect. This must be constantly borne in mind, and if its influence on the cardio-vascular system is to be maintained, the administration must be promptly renewed as occasion requires.

Dr. David Powell, closing discussion: The time when to operate in a case of severe shock is a point, as I said in my paper, regarding which the practice of many experienced surgeons differs. Some years ago it was perhaps the rule to operate during shock, under the impression that patients are thereby spared the additional shock from which they would necessarily suffer as the result of the anesthetic and subsequent operation. At the present time, however, I believe the consensus of opinion, among those who have given this condition the most careful attention, is opposed to operations that can be postponed until the patient has rallied from the immediate effect of the injury. Much can be done during this time to tide him over the danger attendant upon the shock of the injury, and if he does not recover within a few hours then any serious operation would at best be hopeless.

In discussing the treatment of shock, some of the speakers have condemned the employment of strychnin. The experiments of Crile with the blood pressure in shock have been mentioned, and the inference drawn that strychnin in contraindicated. But this is true only in cases of shock complicated by hemorrhage, or serious lesions of vital organs. The well-known physiological action of this drug upon respiration, arterial pressure, etc., would at once suggest its usefulness in this condition, especially along with injections of warm saline solutions. Nitroglycerin, too, as a temporary stimulant to the flagging heart in uncomplicated shock, is often of signal benefit. The action of adrenalin is so transitory that it cannot be given much importance, unless possibly when continued for some period of time, together with intravenous or rectal saline infusions. Subcutaneous injections of sterilized camphorated oil and digitalin, and caffein or strong black coffee, are valuable cardiac stimulants, and together with alcoholic stimulants, find a place in the treatment of traumatic shock. I believe the administration of ether or chloroform in the presence of severe shock is not devoid of danger, and deaths attributed to shock may not infrequently be due to the anesthesia. We should always bear in mind that it is a condition and not a disease that we are combating in the treatment of shock.

## PRESIDENT'S ADDRESS AT THE SEVENTH SEMI-ANNUAL MEETING OF THE CENTRAL CALIFORNIA HEALTH OFFICERS' ASSOCIATION, OCTOBER, 1909.

By R. W. MUSGRAVE, M. D., Hanford.

It becomes my pleasant duty to extend to the members of the Central California Health Officers' Association, as well also the members of the San Joaquin Valley Medical Society, a very cordial greeting. I wish also to express to the Chamber of Commerce of this city, my appreciation of their hearty support and co-operation, for to them is due, in a great measure, the success of these meetings.

This meeting represents the Seventh Semi-Annual session of the Central California Health Officers' Association. From a mere handful, so to speak, of health officers, who held their first meeting in Fresno, this organization has steadily grown, until to-day, I am pleased to report, that it is a very active organization, embracing the representative city and county health officers of the fourteen (14) counties embraced within the territory known as Central California. This organization, is now so constituted, that by a proper direction of its efforts it will not only be a powerful adjunct to the State Board of Health, in the execution of the laws which have been framed for the public good, but as well be a means, through its duly appointed or elected city and county health officers, who are members of this organization, for the enforcement of many laws of great value to their communities.

It is impossible for me at this time, to present to you the many important and necessary topics relating to sanitation and public hygiene, that I would wish. There is one subject, however, of more than ordinary interest to me, to which I desire to call your attention, and which ought to receive your thoughtful consideration. I refer particularly to the "Dull, or so-called Backward School Child."

Child study, as you know, has now become so universal a topic, that it has reached the climax of a fad. Child culture has absorbed society to such an extent, now-a-days that I fear it is gradually losing its dignified scientific prestige. Some one has very wisely said that "what the child needs nowadays, is a little wholesome neglect. He is studied and observed, and cultivated, until he cannot take a long breath, and take it naturally."

This assertion, in a measure, I believe is true, but considering the child from a professional standpoint, and the relation we bear to it as a physician, this study, or so-called agitation, must be continued. I do not believe it is necessary to keep up this agitation with the medical profession. Where this is most needed, is with the parents, in order that they may fully understand what is being done for their child not only with the teachers, but with the physicians as well. What we need more than all else, and particularly so in our work as physicians, is better mothers. Mothers with intelligence; who, by their influence, individually and collectively, can as-

sist us in correcting the many existing wrongs, that in the future will materially affect the welfare of the nation. Until we gain this intelligence, the progress in this character of work will, of necessity, be slow.

Education in this country, is compulsory for all children between the ages of six and fourteen. In some of the states, I believe the duration of school-life is longer. If a child in this country is not presented by its parents at one of our public schools, the parents are required to present some good and valid excuse for its non-appearance; social reasons are not accepted.

Little heed nowadays, I am sorry to say, is paid to any of the chronic ailments of children, which militate, and certainly prevent the school child of to-day from receiving proper instruction. In this connection, I wish to exclude the child afflicted with serious congenital defects, such as heart and speech. There are minor defects, if one will but only stop for a moment and consider, affecting the great majority of our school children, that can be relieved, provided the parents are informed that such defects exist. Squint, nearsightedness, adenoids, enlarged tonsils, bad teeth, nervous troubles, and so on, are not discovered by the parent, nor is the seriousness of such disability fully realized, until the child is under the influence of school life.

Undoubtedly, school life for the young child between the ages of six and fourteen, is growing more complex. Work is now given children far beyond their mental caliber; too much thoroughness is expected at a tender age; hence the tension on body and brain is frequently disastrous, and many times acts as a great hindrance in the proper physical development of the growing child. Multiplicity of studies for the young child, creates a superficial and oftentimes an artificial mentality. Where such a factor as this exists, so as to hinder the efforts of the child in keeping pace with its class, a tension is necessarily produced that will, sooner or later, react disastrously in the proper development of the child's body.

It is not my purpose to sit in judgment on the curriculum of the public school course of study as it is to-day; rather is it incumbent on me to call your attention to alarming increase of disabilities in the school-child. This prevalent method of cramming our school children is already having its effect on the proper development of their mental and physical organization. The seriousness of the many types of minor defects is beyond a question of doubt the dominant factor in producing dull, listless, lethargic, lazy, stupid, and backward children; and in a great many cases, the cause of a great number of the many obstinate, unmanageable, and even immoral children. If these conditions, which have existed, had been alleviated or cured, the child in all probability, would have assumed a more normal condition of physical and mental well being.

It is not the purview of this paper, to enter into any detailed argument on this subject, but rather to make a plea for the so-called "Dull and Backward School-Child"; the child who, by reason of these minor defects, fails to keep pace with its class, and ask that you as physicians, in the relation you bear to your community, arouse a sentiment among your teachers and members of your boards of health, that will look toward the enforcement of a proper medical examination or inspection, of the children of our public schools.

In March, 1905, medical inspection in the public schools of New York City, was changed to that of medical examination. Up to January, 1907, 134,000 children had been examined. The findings showed an enormous proportion of minor defects, and also a considerable proportion of serious ones. I have not the time to enter into any extended analysis of this report, only to call your attention to a few of the more important ones. From March, 1905, to June, 1906, 97,543 children were examined. Out of this number it was found that 64,735, or about 66%, were in need of medical treatment. About 38%, (37,638) had defective vision; 30,789, about 31%, had defective hearing, and 38,991 of these children, about 40%, had bad teeth.

In a recent medical examination of the public schools at Sea Breeze, a suburb I believe of New York City, during the summer of 1906, 550 boys between the ages of five and twelve were examined for throat troubles, and of that number only 85 had no defect. Thirty-eight of 417 of these boys had normal vision, while 769 girls between the ages of five and fifteen were examined for hypertrophied tonsils, and out of this number, only 101 had normal throats. And out of 709 girls whose eyes were examined, only 80 were found to be normal.

The Department of Health of New York City recently rendered a report on seventy-seven so-called backward children, who had been under medical treatment for the relief of their respective disabilities. Their report states that "All of the seventy-seven have improved physically and have been promoted."

"All but four have done more in school in the past six months than in the previous two years."

"One child did three years' work during the past year: that is, a child of eleven, backward, was promoted rapidly and performed all the work that is expected of a child six, seven and eight years of age."

"Four of these seventy-seven children did not advance."

"It may very readily be assumed that this rapid promotion was due almost entirely to the improvement in their physical condition, which resulted from the removal of their hypertrophied tonsils and post-nasal growths, which had so seriously interfered with their breathing and consequently with their physical and mental development."

I wish particularly, to call your attention to the very recent report of Dr. Foster, late Secretary of the State Board of Health, and a member of this organization, who, as Medical Inspector of Schools for the City of Oakland, reports to the school department of that city, the result of his examination

of the children attending the public schools in that city. In his report he says that "approximately ten per cent of children in attendance at the local schools are not properly nourished, either through lack of wholesome or sufficient food, and are victims of malnutrition." He also states that "a large percentage of boys between ten and sixteen years of age, are afflicted with mental dullness, as well as physical debility, as the result of taking nicotine into their lungs by means of cigarettes."

Out of 359 pupils so far examined by Dr. Foster, 155 have been found to be suffering with defective vision, 90 with poor hearing, 60 from defective nasal breathing, 122 from badly decayed teeth, 2 with defective palates, 3 with nervous diseases, 111 with adenoids, 77 with diseased tonsils, 33 with enlarged glands, and 33 with mal-nutrition.

Without going further into detail, these few facts alone, I believe, are of sufficient importance to impress you with the seriousness of a large number of these defects, that only become manifest so soon as a child enters school life. Such a condition of affairs affecting the school-child of to-day, certainly ought to impress us as health officers, particularly so those of us who are entrusted with the preservation of the public health, with the fact that it is our duty to insist on those in charge of the public schools, the absolute importance and necessity of a proper medical examination of all children now attending our public schools.

A trained observer can generally select the defective children in a school after a brief period of observation. Their mental, physical and nervous inferiority is usually evident and unmistakable. They are now recognized as a type of lesser mental defect or backwardness, differing from the truly feebleminded only in degree of defect. The mental dullness in these cases is not a sign of mere arrested development, but is caused by some abnormality or inferiority of the brain itself. I have never seen an experienced primary teacher who, in practice, was not familiar with this type of backward child. The average teacher does not fully interpret the lack of intellectual development. It is possible that she may shrink from the usual parental indignation and protest at the suggestion that the child may be defective mentally. The teacher is apt to believe that the school failure of the pupil is caused by the voluntary and willing lack of attention and effort.

From this superficial survey of the condition of the child in our public schools, we can safely conclude: That the school life of the child at the present day, is too complex and difficult. Too many subjects for study have been introduced, and too great a thoroughness required for a young mind. This has a tendency to unbalance development and create nervous irritability. Teachers in charge of large classes, oftentimes lose sight of the important element of personal equation, the brightest child receiving the greatest consideration, while the "backward" or defective child is entirely lost sight of. Teachers commit a great wrong if they fail to recognize a defective child. This is especially true of the depraved type of children. The children in our reform schools, the great army of the police court, chronic drunkards and criminals, the tramp, vagrants, low prostitutes, are largely recruited from this class of the slightly mentally deficient who were neglected in their youth.

The physician should take a deeper interest in watching the mental defects and having children so afflicted properly classified. The physical defects, including those of the eye, ear, nose and throat, should receive more attention than is now given.

## THE VALUE OF CEREBROSPINAL FLUID EXAMINATIONS IN THE DIAGNOSIS OF CHRONIC NERVOUS DISEASE.*

By H. C. MOFFITT, M. D.

The value of lumbar puncture in the diagnosis of certain acute nervous diseases, of meningitis, of ventricular or traumatic cerebral hemorrhage needs no emphasis. The work of Ravaut, Sicard, Nageotte, Widal, and more lately of Erb and Nonne has shown the importance of lymphocytosis in the spinal fluid. This pleocytosis may occur in secondary or late lues, multiple sclerosis, idiopathic epilepsy (rarely), apoplexy, or after trauma, but is marked only in tabes, general paralysis, cerebrospinal lues, tubercular meningitis, and in certain cases of hydrocephalus. As Erb writes, "Die Diagnose auf Syphilis des Zentralnervensystems durch eine ausgesprochene Lymphocytose sehr an Wahrscheinlichkeit gewinnt und nicht selten durch sie aus dem Bereich der Wahrscheinlichkeit in das der Gewissheit gehoben wird."

Normally there are only a few cells in the cerebrospinal fluid, and these are nearly all lymphocytes. Polynuclears are found only in meningitis, abscess of brain, or a few are present after the convulsive attacks of general paralysis. In lues cerebrospinalis, nearly all the cells are lymphocytes. In general paralysis or tabes there may be caudate, vacuolated or so-called Gitter cells as well as many lymphocytes. This slide from a case of cerebrospinal lues seen recently with Dr. Herbert Allen illustrates the tremendous pleocytosis that may be present.

It has been recognized of late that "increase in certain protein constituents of blood serum and cerebrospinal fluid is constant in patients with active or latent syphilis or parasyphilitic affections" (Noguchi). These proteins are particularly the globulins and euglobulins, which may be demonstrated by the *Nonne and Apelt* globulin test or by the *Noguchi* butyric reaction

In the *Nonne* test a saturated solution of ammonium sulphate is added to an equal quantity of cerebrospinal fluid, which must be free from blood. A distinct cloudiness occurring within three minutes is called a positive reaction. The papers of *Nonne* (Deutsche Zeitschrift fuer Nervenheilkunde, Bd. 36, S. 44, Journal A. M. A., July 24, 1909, p. 289) give interesting comparisons of the value of pleocy-

* Read before the San Francisco County Medical Society, November 9th, 1909.

tosis, the Nonne test, and the Wassermann reaction in blood and cerebrospinal fluid in many cases of tabes, general paralysis, cerebrospinal syphilis, and of chronic non-spyhilitic nervous diseases. In forty-seven recent cases of tabes, pleocytosis and the globulin test were positive in forty. Out of seventeen cases of general paralysis only one failed to give the reactions, and fifteen out of eighteen cases of cerebrospinal lues gave positive results.

In the *Noguchi* butyric reaction 0.5 cc. of 10% butyric acid in 0.9% salt solution is added to 0.1 cc. of spinal fluid, which must not contain blood. The mixture is boiled for a few moments, 0.1 cc. of 4% NaOH is added quickly, and the fluid again boiled for a few seconds. A granular or flocculent precipitate, which soon settles under clear supernatant fluid, is called a positive result. Opalescence or even marked cloudiness without precipitation is regarded as negative.

Noguchi has found the reaction positive in tubercular, epidemic, and influenzenal meningitis, in two cases of hydrocephalus: negative in epilepsy, alcoholic psychoses, senile dementia, spastic paraplegia, typhoid, lobar pneumonia, etc. It is invariably positive in cerebrospinal lues, tabes, and general paralysis. It is often positive in congenital or secondary or tertiary syphilis, but is less marked and the characteristic granular sediment may not occur for two hours instead of in ten or fifteen minutes.

The following is a short résumé of the reactions in twenty-five cases seen recently in private or hospital practice:

1. Man of 45, chancre on finger six years ago; treated by many physicians in this country and abroad the last two years as a neurasthenic: slow speech was the only noticeable symptom, but some mental failure was later apparent. No changes in pupils or reflexes, most marked pleocytosis, Nonne and Noguchi. Subsequent course has confirmed the diagnosis of general paralysis.

2. A man of thirty without syphilitic history: very marked mental decay and disturbances of speech in the last two years: slow light reaction in pupils, very lively knee jerks: marked pleocytosis with positive Nonne and Noguchi in the spinal fluid. This patient is now confined in an asylum with general paralysis.

3. Wife of patient number one, who thinks she must be infected, and who imagines she has the same nervous symptoms as her husband. No mental or somatic signs, negative Wassermann in serum: practically no cells in spinal fluid and negative Nonne and Noguchi.

4. Man with history of syphilis and scars of former eruption over forehead: many neurasthenic symptoms, and a firm conviction that he has syphilis of the nervous system: lively reflexes but no signs of tabes or general paralysis: Wassermann and examination of cerebrospinal fluid negative.

5. Man with syphilitic infection fifteen years before. Peculiar nervous symptoms lately had led to diagnosis of probable general paralysis. All tests of cerebrospinal fluid negative, and patient now apparently well.

6. Typical case of general paralysis seen in hospital. Pleocytosis marked: Nonne and Noguchi strongly positive.

7. Young man of thirty without specific history but with very marked tremor of the tongue and lips, characteristic speech changes, very lively reflexes, and two recent attacks of transient hemiplegia. There were very marked mental changes, no evidence of active lues, very marked Wassermann reaction in blood serum, and most marked pleocytosis, Nonne and Noguchi.

8. Man in hospital with cerebrospinal lues and probable tabes: pleocytosis marked, Nonne and Noguchi positive.

9. Man of 55 in hospital: old and recent iritis, optic atrophy, absent knee jerks, positive pleocytosis, Nonne and Noguchi.

10. Woman of 30 in private practice; intense hyperalgesia of trunk for six years; typical stomach crises for four years; typical lancinating pains; very marked sensory changes over trunk; positive pleocytosis, Nonne and Noguchi.

11. Girl of 13 with hereditary lues and gastric crises; positive pleocytosis and Nonne in cerebrospinal fluid, Noguchi not tested.

12. Tabes with hemiplegia (male); pleocytosis, and Nonne positive, Noguchi not tested.

13. Tabes (typical), (male), pleocytosis, Nonne and Noguchi positive.

14. Typical tabes in a man with gastric crises and a Charcot knee: pleocytosis and Nonne positive; Noguchi not tested.

15. Probable stationary tabes (male), indefinite pains, Argyll-Robertson pupils, optic atrophy; pleocytosis slight, no Nonne or Noguchi.

16. Man with cerebrospinal lues, infection twelve years ago, symptoms for some months: weakness of left leg, pains in legs; extreme pleocytosis, positive Noguchi, no Nonne.

17. Man in hospital with papulosquamous syphilide and subacute myelitis; positive pleocytosis and Nonne; Noguchi not tested.

18. Boy of 11, polyuria, polydipsia, emaciation; positive pleocytosis, Nonne and Noguchi: improvement under mercury and iodide.

19. Man of 30 with severe syphilitic infection ten years ago and many later lesions in mouth and nose; many nervous symptoms with headache and occasional neuralgic pains in occipital nerves; tests of spinal fluid entirely negative.

20. Young man with many vasomotor and neurasthenic symptoms; several attacks of severe pain in mid-dorsal nerves with girdle sensation; cerebrospinal fluid normal.

21. Young man with arteriosclerosis, headache and depression; cerebrospinal fluid negative.

22. Combined system disease; no luetic stigmata; Wassermann and cerebrospinal fluid tests negative.

23. Woman of 36 brought to hospital in coma with temperature of 40°; history of recent convulsions; tuberculosis of right apex, syphilitic ulcer on right shin; cerebrospinal fluid showed very few cells, a slight Nonne but no Noguchi; urine, specific gravity 1024 with a trace of albumin and many casts. Autopsy showed no meningitis or cerebrospinal syphilis but granular kidneys. The nervous symptoms were no doubt uremic.

24. Man of 28, epilepsy developing five years before; no history or signs of syphilis; Wassermann and cerebrospinal fluid negative.

25. Man of 29, epilepsy for five years; cerebrospinal fluid negative but a positive Wassermann in the blood serum; no history or signs of syphilis.

The tests are of most value in doubtful cases of general paralysis, tabes, or cerebrospinal lues, in which either symptoms or signs are equivocal. Or, they may help decide the importance and gravity of many functional nervous symptoms in patients with

history of lues who are suspicious of beginning tabes or general paralysis. Together with the Wassermann reaction in the blood serum and cerebrospinal fluid, they may help in determining the nature of apparent idopathic epilepsy or in distinguishing brain tumors from syphilitic disease. They must be used, of course, only in conjunction with the general clinical picture, and their value can only be properly judged after the lapse of sufficient time to accumulate many more cases than are now on record. The recent article of *Williamson* emphasizes the necessity of caution in judging of their value.

It is unwise to practice lumbar puncture indiscriminately, as it is a procedure not without disagreeable sequelae at times, particularly in neurotic patients with unstable vasomotor systems. There may be severe headache and dizziness for some days following puncture.

## CONGENITAL DISLOCATION OF THE HIP.*

By HARRY M. SHERMAN, M. D., and GEORGE J. McCHESNEY, M. D., San Francisco.

At the meeting of this Society held in Fresno I reported the first of the cases of congenital dislocation of the hip that I had attempted to correct. The report was but a preliminary one and covered several cases in which the reduction had been accomplished through an incision with deepening of the acetabulum according to the earlier technic of Lorenz, and also a smaller number of cases in which the reduction had been attempted by the manipulative method of Lorenz, as it was then practiced.

I revert to this now, for I then promised to report the late results in these cases, and I can now only make a partial report because of the disappearance of all but a very few of these patients from my observation.

Of those reduced through an incision with deepening of the acetabulum I can report but one, for I cannot find the others. This was the second patient I had operated upon for the condition. The reduction has remained stable, but free motion has never been attained; in fact the reverse was noted, the hip has become progressively stiffer, the limb has gone into adduction and become shorter while at the same time a coxa vara has developed. To correct the coxa vara and lessen the shortening I some time ago did a subtrochanteric osteotomy and gave the limb good abduction, but again it is slowly going into adduction. In spite of these faults, the girl's walk is easy, though there is a little irregularity in the step; she does not tire readily and she is free from the classic deformity of a dislocated hip. She is, in short, much benefited but has not been accorded an ideal result.

As the chief late finding in this case I note that *the acetabulum is at a higher level than is normal;* that is, the deepening of the acetabulum, which involved epiphyseal lines, interfered certainly with the growth of the ilium and probably that of the ischium and pubis, as we would expect it to do in any of the long bones.

To the manipulative cases that I reported in Fresno, I can easily add all I have done. There have been thirteen hips and twelve failures. The one success has been ideal and incomparable, for the child has had vertebral tuberculosis and tuberculosis of the nondislocated hip. During his convalescence from these infections he wore a large and complex apparatus to hold the spine and the hip, and did his walking on crutches and the hip which had been dislocated, and *it never failed him.* He is now again well and of his two hips the one which had been dislocated is the better, though the other, which has recovered from the tuberculosis, is a good practical hip joint.

The remote likelihood of getting a satisfactory percentage of anatomical reductions by manipulation led me, in a child in whom the apparent reduction had immediately redislocated, to make a second reduction and then, while the bone was held in place by another, I cut down upon the hip and inspected the parts. This was done on the 28th of May, 1898, and the note, made immediately after the operation, reads: "The Lorenz operation, except that the acetabula were not hollowed out. The left hip had not been definitely replaced, a fold of capsule being between the head and the acetabulum. The right hip seemed to have been properly replaced at the time of the manipulation. In each case the capsule was sutured, on the left side it being overlapped and the upper portion stitched to the anterior part of the trochanter, on the right side a fold was taken in the capsule by the sutures. Deep catgut and superficial silkworm gut sutures. Gauze drains. Double plaster of Paris spica, legs abducted about 20° each." The last note in the history, made a year later, in April, 1899, states that an anterior reluxation had occurred on each side, so that all that had been attained was a double anterior transposition.

The obstacle of the infolding capsule was not a new discovery, for others had found it before and had described it. It was due to a constriction in the capsular ligament of the hip, which was located between the acetabulum and the femoral head. Such a capsule, removed from the bony parts, would be seen to consist of two expanded parts, one to apply to the acetabular rim and the other to envelop the femoral head and attach to the base of the neck; between these two expanded parts would be a narrow part. Bradford has called the narrow part the "hymen of the acetabulum." Lorenz called the acetabular expansion the "pocket of the acetabulum," and the narrow part was naturally the opening and, of course, smaller than the pocket. This narrow part is smaller than is the femoral head. So it is impossible to make the femoral head pass through it unless one can absolutely accurately apply the femoral head to it and press hard enough and long enough to stretch it. Reasoning theoretically, one might say this could be done; but when one has had the opportunity of putting his finger into this nar-

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, April, 1909.

row space, as I have had, and can know, as I do, how narrow it is and how firm is the capsule, which is all gathered together into a special thickness and which has been carrying the child's weight at every other step, he must be an optimist to believe that *without seeing* he can apply the bigger femoral head to smaller orifice, and then can, within any time that can be devoted to an operation, force it through. Only twice have I found the opening large enough to permit the passage of the head; in every other instance it has been too small to admit more than the tip of my finger.

The child whose hip condition after manipulative reduction had been exposed by incision was the first patient in whom I did not deepen the acetabula, and while my records show that I did deepen the socket in four other cases subsequently, the comparison of this child with the others was the basis for my finally abandoning the procedure.

When the acetabulum is deepened by cutting out the cartilage of the floor, it exposes cancellous bone as soon as the epiphyseal line has been passed. In the process of repair granulation tissue must spring from this bared bone and it enwraps the femoral head and attaches to it and so limits the range of motion. In no case where the acetabulum has been deepened has normal motion resulted and in some cases all motion has been inhibited, a practical anchylosis. Against a *manipulation* which succeeded in producing an anatomical reduction, the cartilage of the head being put in contact with the cartilage of the acetabulum and no capsule being infolded and which gave an ideal and permanent result, no argument can stand. The only objection to the manipulative method would be the presence in the statistics of a large percentage of children in whom the anatomical reduction could not be gained by any operator because of the infolding of the capsule. If an operation by *incision* could always accomplish an anatomical reduction, as just described, and the permanence and joint mobility were equal to those points in the ideal manipulative result, the operation by incision would be better than that by manipulation by just as much as 100 per cent is better than the lower percentage of the manipulative methods. On this argument I abandoned attempts at manipulative reduction, and for the reason I stated a moment ago, I abandoned deepening the acetabula.

But there was still another obstacle. I found that while these hips left me in seemingly stable reduction they came back in a few months or a year with the head again out of the acetabulum. This reluxation was always forward and the head lay under the long head of the rectus and beneath the anterior inferior iliac spine. This left the final result an anterior transposition and nothing more.

Lorenz had pointed out that in many of these cases there is a twist of the femoral shaft so that the head and neck point almost directly forwards, or at any rate much more forwards than is normal, and the trochanter looks commensurately backwards. This means that, to give the head and neck the proper direction so that they can enter the acetabulum with the proper relations to the socket, the whole limb must be rotated inwards from 45° to 90°, or so that the toes point inwards. Now if, later, the toes are permitted to point forwards again, the head of the femur also comes forward, the back part of the neck rides on the posterior rim of the acetabulum and the head is lifted out of the socket and slips up above it and external to it, into the position of anterior transposition.

To control this I adopted the osteotomy which Lorenz had practiced and advised, a subcutaneous subtrochanteric linear osteotomy with this technic: While the foot is held rotated inward strongly a long nail is driven well into the trochanter but not through it; the osteotomy is then done just below the trochanter; now while the trochanter, neck and head are held in normal relation to the acetabulum by the nail, the projecting end of which is grasped by the fingers or a forceps, so that part of that bone cannot move, the limb below the osteotomy is rotated outwards until the toes point forwards. This gives the neck and head a practically normal relation to the shaft, and when the toes point forwards the neck and head point inwards, upwards and only a little forwards; the head enters the acetabulum with the proper relations to that socket, and there is no tendency for it to rotate forwards and leave the socket. This gave me anatomical reductions which were permanent; the joints had ample or normal ranges of motion; there was no interference with any developmental process of the bones of the pelvis or femur.

In all there have been 64 hips in 53 children under my care. Of these 42 hips in 36 children have been reduced through the incision, and of these again 14 hips in as many children have had the osteotomy done.

Of those without the osteotomy, 28 hips in 22 children. The oldest was 11 years, the youngest 1½ years, and the average age 3 1-3 years. One hip in a girl 11 years old, reluxated and I was never permitted to attempt a second reduction; 7 hips have definitely gone into the anterior transposition; 1 hip has stable reduction, free motion, but a coxa vara has developed; 2 hips have stable reduction, partial anchylosis and coxa vara; 1 hip has stable reduction and complete anchylosis; 1 child with 1 dislocated hip died of infection of the incision; 4 children with 4 hips have not been heard from; 5 hips are satisfactory to parents and home physicians, and there are 6 hips which we have examined personally and know to be practically normal hips—that is, there is no limp even when the child is tired, all possible gaits are equally easy and the child does not fatigue readily.

The reluxations are due to our failure to appreciate earlier the importance of the forward twist of the neck and head as a reluxating cause. In the earlier days we were content to take a radiogram of the hips with the toes pointing forward and accepted the picture as a statement of the shape and size of the neck and head. Then we discovered that this was not enough and so two radiograms are always taken, one with the toes pointing forward, and this shows, if there is a twist, the head looking forward

and the neck foreshortened; the other picture is taken with the limb rotated in so that the toes point to the opposite foot, and then we get a profile of the upper end of the femur which gives an adequate idea of the length and direction of the neck and the size of the nucleus of the head.

It is to be noted that if there is but one hip dislocated the ossifying nucleus in the femoral head on the side of the dislocation is always smaller than that on the normal side. The radiograms all show, also, a deficient overhanging lip of the acetabulum, so that the resistance to the upward thrust of the head in carrying weight is less than in a normal hip.

From what has been said it is easy to see that the cases in which osteotomies have been done have been those cases that have come to us more recently, as in the last three years. There have been 14 hips in which osteotomy has been done. Of these the oldest was 5 years, the youngest was 1½ years, and the average age was 2¾ years. Of these two are in anterior transposition due to suppuration around the nail, so that it loosened and failed to hold the trochanter rotated forward, but instead permitted it to swing back to its original relation to the shaft. These were then the same as if no osteotomy had been done. Seven hips in as many children have given perfect practical results; that is, the reduction is stable, there is free motion in ample range, there is no obvious limp even when the child is tired, and the child does not tire readily. Five hips are still under treatment, and while all are doing well, they are not sufficiently advanced to permit me to report on them in any other way.

The importance of the osteotomy in our estimation is very great and the need for it can be most accurately estimated by the radiograms of the hips in the two positions. Reduction, whether that be done by manipulation or through an incision, is, in the cases with anterior twist, most likely to be unstable and reluxation to the position of anterior transposition is common unless the osteotomy be done. With the osteotomy the proper relation of the head and neck of the femur to the rim and socket of the acetabulum can be secured and so the tendency to reluxation avoided.

With this technic of reduction through an incision, which really reduces, and osteotomy when it is necessary to fit the component parts of the joint to each other, we feel that we can give to our patients a full 100 per cent of their chances for a practical joint. We cannot recreate bony deficiencies nor perfectly fit together wholly mismatched parts, but with a practical acetabulum and a practical head and neck, we think the method should give a practically normal joint.

A joint is a mechanical contrivance and the test of its mechanic competence is its functional competence. A joint which has a functional competence equal to that of a normal joint, is itself a normal joint. In many instances the radiogram may show variations in shape, size and other details from the generally accepted form, but if the function is equal to that of a normal joint we claim that it is a normal joint.

## PELLAGRA IN CALIFORNIA.*

By RUPERT BLUE, Surgeon United States Public Health and Marine-Hospital Service.

*History.*—Pellagra was first described by Casal of Spain in 1735. It next attracted attention in Italy in 1771, and was named pellagra (meaning rough skin) by Frapolli at that time. As early as 1810 Marzori called attention to the relation between maize eating and pellagra. The late Professor Lombroso, of Milan, probably devoted more time to the study of the etiology of the condition than any other single observer. During the course of his investigations he became convinced that the syndrome was produced by a toxin occurring in damaged corn. Tizzoni advanced the theory that the disease was of bacillary origin. This, however, has not been proven.

The prevalence of the disease in this country was not positively known till Searcy of Alabama reported the outbreak which occurred in the State Hospital for the Insane at Mt. Vernon in 1907. Since that time cases have been reported from various parts of the United States by Wood, Watson, Babcock and Lavinder. The latter in a report to the Surgeon-General estimated the number of pellagrins in the United States to be one thousand five hundred. I think this falls far short of the actual number. The chief seats of the disease are the corn-producing states or where corn is used as a staple article of diet, as in the southern states and in Indiana, Illinois and New York. I am of the opinion that pellagra can be found to-day in nearly all of the insane asylums and almshouses of this country. In fact, it may be one of the most prolific causes of insanity, invalidism and poverty.

In the United States as in Italy, the disease is confined almost wholly to the laboring classes. Wood states, however, that it affected all classes alike in the cases studied by him.

*Etiology.*—As with other diseases of which the cause is not definitely known, those who have studied it have arrived at widely divergent views regarding its etiology. In a general way there are two prevalent theories, the one holding that there is a definite relation between Indian corn and the disease, and the other maintaining that this view is incorrect. The maize theory of the etiology may be classed under three heads: (1) It is an intoxication; (2) it is an autointoxication; (3) it is a specific infection either by bacteria, molds or protozoa. The question of the communicability of the disease has also received considerable attention. This question may be considered as still *sub judice,* but I do not believe that the evidence thus far presented warrants us in the belief that pellagra is contagious or infectious, or in establishing quarantine against it. Thus far the only fact which seems to offer any hope is the occurrence of the disease chiefly among those subsisting on a corn diet which has undergone fermentative changes. Alcoholism, insanitary surroundings and its coincident train of diseases act as predisposing causes.

* Read before the San Francisco County Medical Society, December 14, 1909.

*Pathology.*—There are absolutely no characteristic changes. Cachexia, emaciation, fatty degeneration of the heart, liver, kidney and spleen, atrophy of the muscular coats of the intestine, together with hyperemia and ulceration, have been noted. The lesions in the spinal cord resemble somewhat remotely beginning tabes. Other changes noted in the nervous system are inflammatory products in the walls of the vessels of the brain and cord, degeneration in the lateral columns in the dorsal region and of the posterior columns in the cervical region. The skin presents a chronic congestion, thickening, pigmentation and atrophic changes, bringing about the roughened condition from which the disease takes its name.

*Symptoms.*—In general it may be said that cutaneous lesions involving the dorsal surfaces of the hands, symmetrical in position, if accompanied by stomatitis and diarrhea, warrant the diagnosis of pellagra. The case which I now present to you is in most respects fairly typical and will show better than I can describe it, the signs and symptoms of the disease.

A. R., male, white, aged 51, farm-laborer, born in the Cape de Verde Islands; has lived in the United States twenty years.

History.—The patient does not know and there is no record to show when he became a public charge. He was admitted to the wards of the Alameda County Infirmary in May, 1908, on the diagnosis of melancholia. At this time he was almost completely blind.

Examination.—November 16, 1909. The patient was emaciated but not anemic. The dorsal surfaces of the hands show evidences of repeated attacks of dermatitis. A similar condition was present on both sides and back of the neck and on the ears. The skin over these areas is dark-red in color, scaly and rough. A few white striae can be seen on the darkly pigmented surface of the neck, the whole presenting a piebald appearance.

There has been a moderate stomatitis and slight ptyalism, the tongue being red on tip and sides and apparently denuded of epithelium. The diarrhea is almost constant. (Patient exhibited during the examination irritability, stupidity and tremors of the head.) The knee-jerk on left side was increased; the gait was slow and uncertain. Owing to the mental dullness no personal or family history can be obtained. Inasmuch as this is the first case to be described in California, it would be interesting to know just where the disease was received.

While this is a very clear case, it should not be forgotten that the symptom-complex may vary with the seasons. Thus, if a patient be examined in the fall or winter the stomatitis or diarrhea may have abated and the clinical picture will be incomplete. In such cases the only visible lesion will be the scaly, discolored condition on the backs of the hands. In other words, all the features of the disease are not present all the time. The chronics, however, will exhibit in addition, cord symptoms and mental aberrations. When in doubt, place such cases under observation and watch for an acute exacerbation of the characteristic signs in the following autumn or spring.

According to Babcock, the Italians regard obstinate diarrhea, mental disturbances and exaggerated knee-jerks as pathognomonic of the affection. The English depend mainly upon the gastro-intestinal, mental and cord symptoms as a positive syndrome and will diagnose a case in the absence of skin manifestations. Pellagra without cutaneous lesions has been described by several authorities. There are no ocular signs which are characteristic. In our cases the senility present and mental dullness made it impossible to say which were due to the noxious agent and which due to the old age. The case exhibited to-night has been nearly blind for many years.

*Prognosis.*—In America it may be said in general that the prognosis in all cases of pellagra is grave as to final and complete recovery. It may be assumed that when the patient arrives at the asylum in a state of insanity, recovery is practically unknown. Of course, the earlier the diagnosis can be made and the treatment begun the better the prognosis. The outlook for immediate death is in proportion to the severity of the symptoms. The chronic form without mental changes is perhaps the most favorable of all. Fever and extensive erythema are danger signals. The severity of the intoxication may also be judged by the degree of mental involvement. The gravity of the prognosis is increased by complications, especially with changes in the lungs or kidneys.

*Prophylaxis.*—It goes, of course, without saying, that all of those factors which tend to lower bodily resistance predispose to the disease, but beyond this our views regarding prophylaxis will be influenced largely by our opinion as to the etiology of the disease. On one fact, however, all seem agreed; that is, that damaged maize plays some role in the transmission of the disease. It is, of course, foolish to assume that because of this sound corn should be entirely excluded from the dietary. It would seem more sensible to instruct the farmer how to properly harvest and store corn so that the grain may have no opportunity of undergoing fermentation. In the matter of public education, the danger of eating corn products which have undergone fermentation should be very generally impressed.

*Treatment.*—There is no specific treatment for the disease. Arsenic has proven a valuable agent, but probably acts by simply improving the general condition. Rest and a nutritious and abundant diet are, of course, very important. Maize should, of course, be excluded from the dietary of the patient. Hydrotherapy has had a decidedly beneficial effect in some cases. The skin should be protected against the direct rays of the bright sun in order to prevent a bad erythema. The remainder of the treatment is entirely symptomatic.

## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, OAKLAND.

### *The Societies of Tropical Medicine.*

The increasing interest in tropical medicine has found expression in the establishment of several societies devoted to the advancement of our knowledge of tropical disease. The Deutsches tropenmedizinisches Gesellschaft in Germany, the Société de Médecine et d'Hygiène Tropicales and the Société de la Pathologie Exotique of Paris are all

doing valuable work. For English speaking workers, membership in one of the three following active societies would be of great advantage in keeping in touch with the latest progress: The American Society of Tropical Medicine, Secretary Dr. John M. Swan, Philadelphia Polyclinic, The International Society of Tropical Medicine, Secretary Prof. G. H. F. Nuttall, University of Cambridge, England, and The Society of Tropical Medicine and Hygiene (London), of which the American Secretary is the writer of these paragraphs.

*Insects and Disease.*

The admission of the importance of arthropods as disseminators of disease is in a large sense the direct outgrowth of tropical medicine and bids fair to become the great question of the day in epidemiology and pathology. The transmission by these creatures of such diseases as malaria, bubonic plague, dengue, filariasis, yellow fever, typhoid, tuberculosis, relapsing fever, sleeping sickness, tropical splenomegaly, spotted fever, etc., has been worked out in such a manner as to fill the sanitarian with suspicion toward a large part of the insect world. A detailed and systematic study of many arthropods thus becomes a necessity for the student of scientific medicine. One or two institutions have established courses in medical entomology and at least a course in medical zoology, including some consideration of insects, should find a place in every medical curriculum.

*A Squirrel-Free Zone Around the Bay Cities.*

We learn from the Public Health and Marine Hospital Service that the finding of plague infected ground squirrels within a mile of the city of Berkeley has led to an effort, now in progress, to destroy all these rodents within a radius of two miles of the bay cities and thus to lessen the danger of the urban rat population again becoming infected.

*The Malaria Situation in California.*

The number of malarial infections in this State is very large. While there are many cases constantly arriving from the Orient, there are also many originating here in California. Dr. Eleanor S. Bancroft of the University of California has kindly furnished us with records of the malarial cases treated in the students' infirmary during the past 18 months, and these show that over two-thirds of all the cases originating in the State come from places on the Sacramento River or its tributaries. All the California cases we have seen personally were from the Sacramento or San Joaquin valleys. Dr. Bancroft's report shows, however, that Humboldt county in the north and Fresno county south have also furnished cases, while one case seems to have originated in Oakland and another in Berkeley. Of the strictly tropical fevers Chile, Mexico, the Philippines, Hawaii, South China and Japan have furnished the cases the writer has seen. It need hardly be said that account has been taken only of cases recognized microscopically as well as clinically to be malaria. All three species of plasmodia have been seen. Cases contracted in the Philippines seem to be chiefly benign tertian while those from the Sacramento Valley are usually aestivo-autumnal with frequent double infections, the other parasite being benign tertian as a rule. The only anopheline mosquitoes yet collected are *Anopheles maculipennis* and *A. punctipennis.*

*Endemic Hemoptosis.*

The writer has examined one case of this disease in a Chinese who had been in Formosa, and had no difficulty in demonstrating the ova of the lung fluke (*Paragonimus westermanni*) in the patient's sputum. Dr. Hayward G. Thomas of Oakland has recently called our attention to what is in all probability a second case in a white man who had lived in Japan. This infection should be looked for with the expectation of finding cases of it, as it should not be uncommon among the Orientals who come to us from the endemic centers of the disease.

## ALKAPTONURIA.*

By JOHN C. SPENCER, M. D., San Francisco.

My excuse for occupying your attention with the subject of alkaptonuria, is the rarity of the condition—there having been but fifty cases recorded in medical literature—and the fact that one examining urine more or less frequently may stumble across a case and be somewhat at a loss to explain the phenomena charactertistic of the condition.

The most striking peculiarity connected with this condition is that the urine, which may have been passed by an individual perfectly normal in all other respects physically, will, upon standing a longer or shorter period of time—usually at least twenty-four hours—acquire a brownish smoky tinge, remaining the while perfectly clear. This discoloration is due to the presence of *homogentisic acid* in the urine.

The original investigations on this interesting topic were made in 1857 by Boedeker, his attention having been attracted to it during a series of investigations on the various substances which have the property of reducing copper in solution. Homogentisic acid has been found invariably in every case of alkaptonuria. The brown discoloration is due to the very slow absorption of oxygen from the atmosphere. If the urine containing alkapton be actively agitated over a period of time, in a test-tube, the color-reaction takes place much more rapidly. If, however, an alkali, as caustic potash, be added, the reaction will take place more rapidly than in the absence of the alkali. Unless the urine be agitated, the reaction will be comparatively slow. If on the other hand, the alkalized urine be violently agitated, there will be a very marked color reaction, which will be blackish in the upper layer of the fluid, forming a contact ring.

Wolkow and Baumann have made very exhaustive researches upon this phenomenon, including attempts to establish its pathology, but with imperfect success. It may be mentioned in passing, that three other substances, not due to the ingestion of drugs or chemicals, possess the property of producing a brown discoloration upon standing. They are: Brenzcatechin; glycosuric acid; uroleucic acid.

* Read before California Academy of Medicine.

The substance alkapton itself is described in the "Lexicon of Medicine" and "Allied Sciences" as being amorphous and resembling grape-sugar in certain respects. It is pale-yellow and glazy, burning with a pale flame and giving off a urinous smell. Heated with calcium nitrate, it gives off ammonia. It is soluble in water and alcohol and not fermentible. It reduces copper and silver oxides in the presence of a free alkali. Careful laboratory tests show that alkaptonuric urine is capable of absorbing approximately four-fifths of its volume of oxygen, when the test is made with the addition of a small quantity of caustic potash and the mixture agitated. As to further chemical tests (and this phase of the subject has been well thrashed out, chiefly by the German chemists) I must refer you to the literature.

This will be found very completely set forth in the fifth English edition of von Jaksch's "Clinical Diagnosis." Such references as have been accessible to me in the original have been but few. Quoting from von Jaksch's work: "Homogentisic acid, which is chemically hydroquinone-acetic acid, is apparently produced from tyrosin and phenylalanin in the body, for it is shown that the quantity of this acid is markedly increased when tyrosin or phenylalanin are administered to the patient, whereas it is not excreted when tyrosin is taken by a normal individual. Proteid food also increases the output. In a very few cases alkaptonuria has apparently occurred as a temporary or intermittent phenomenon."

From the clinical side, quoting further: "In the great majority of cases it is a congenital, lifelong, harmless peculiarity, which is apt to occur in several brothers and sisters of a family. It is seldom directly transmitted from parent to child, but in a large proportion of cases the subjects of it have been the offspring of consanguineous marriages. It has been observed in infants from the earliest days of life."

The individual from whom the urine presented was derived has had no illnesses of any nature beyond a few of the ordinary diseases of childhood. He is unusually robust, and sprung from vigorous ancestry. There is no personal or family history of lues obtainable. He is a very generous feeder and consumes a moderate amount of beer daily. His color is somewhat pasty, his abdomen quite prominent. According to his own statement, he enjoys the best of health, and all of his functions are normal. In the course of a routine examination of his urine, the specific gravity being 1028, the urine was subjected to Fehling's solution for the possible presence of sugar. The immediate and heavy precipitate was most striking. A reference to the authorities evolved the explanation of the reaction.

## SOCIETY REPORTS

### HUMBOLDT COUNTY.

At the annual meeting of the Humboldt County Medical Society, held Jan. 27th, the following officers were elected:

President, Dr. C. W. Mills of Arcata; Vice-President, Dr. J. N. Chain of Eureka; Secretary, Dr. E. V. Falk of Eureka; Treasurer, Dr. B. M. Marshall of Eureka; Delegates, Dr. C. C. Falk of Eureka, and Dr. Joe Menefee of Arcata; Alternates, Dr. G. N. Drysdale of Eureka and Dr. B. M. Marshall of Eureka.

E. V. FALK, Secretary.

### MONTEREY COUNTY.

The annual meeting of the Monterey County Medical Society was held in Salinas December 8. Dr. T. C. Edwards, Salinas, was elected President; Dr. A. M. Ritchie, Pacific Grove, Vice-President; Dr. H. T. Crabtree, Salinas, Secretary; Dr. Jno. Parker, Salinas, Treasurer; Dr. J. E. Rankin, Gonzales, Censor; Dr. H. B. Christiansen, Delegate to State Society; Drs. T. C. Edwards and W. A. Lillie, Alternates.

New members: Dr. Wm. Himmelsfuch, Carmel-by-the-Sea; Dr. N. B. Gould, Gonzales; Dr. Garth Parker, Salinas; Dr. John Beck, Salinas.

H. T. CRABTREE, Secretary.

### SAN BERNARDINO COUNTY.

At the regular meeting of the San Bernardino County Medical Society, held Tuesday, December 14, the following officers were elected for the ensuing year: President, Dr. W. P. Burke; Vice-President, Dr. Hoell Tyler; Second Vice-President, Dr. T. M. Blythe; Secretary, Dr. Gayle G. Moseley; Treasurer, Dr. W. A. Taltaval.

The society has again taken up the post-graduate course as outlined by the American Medical Journal, as this course was found eminently practical and beneficial the past year.

The County Society has arranged with the Physicians' Club for permanent quarters in which to hold its meetings. There has been formed a physicians' club, which has leased quarters in the new Masonic building, and some physicians will be eligible to membership in this club and will have the benefits of the regular meetings who would not be eligible to the County or State Society.

In these club rooms, which will be the headquarters for the County Society, there will be on file all the leading medical journals and reviews and some books of reference. It is the purpose to make this the nucleus for the formation of a library which will be increased from time to time by the voluntary contributions of its members. The securing of these club rooms has stimulated the interest in the society and we believe that we are entering upon a year of unusual activity and prosperity.

GAYLE G. MOSELEY, Secretary.

### SANTA CLARA COUNTY.

The following officers were elected to serve the society for the year 1910:

President, Dr. E. R. Wagner, San Jose; First Vice-President, Dr. R. A. Whiffin, San Jose; Second Vice-President, Dr. C. G. Wilson, Palo Alto; Third Vice-President, Dr. Clara Silvia, Gilroy; Secretary, Dr. J. J. Kocher, San Jose; Treasurer, Dr. H. J. B. Wright, San Jose; Councilors—Drs. Jordan, Osborne, Simpson; Delegates 1910-11—Dr. J. L. Asay, Dr. J. J. Moyer; Alternates 1910-11—Dr. W. W. Fraser, Dr. Edward Newell.

Dr. A. C. Posey applied for transfer. Dr. Benj. Thomas resigned.

J. J. KOCHER, Secretary.

### SONOMA COUNTY.

The Sonoma County Medical Society held their meeting Dec. 3, 1909, at Hotel Overton with the following attendance: Drs. W. J. Kerr, President; G. W. Mallory, Secretary; A. B. Herrick, J. H. McLeod, Jackson Temple, F. O. Pryor, E. E. Briggs,

J. W. Clark, H. J. Trachman, P. A. Meneray, R. M. Bonar, J. J. Keating, J. E. Maddux, S. Z. Peoples, W. C. Shipley, J. W. Seawell, E. J. Ruddock, F. N. Folsom, R. A. Forrest, W. J. G. Dawson; C. P. Maddux, visitor.

Dr. E. E. Briggs, formerly of Santa Cruz County Medical Society, was elected to membership in this Society. We now have fifty members. Every one of the members is "square" on the Secretary's books, and the Society has on hand cash about $70.00.

Dr. Seawell's clinic illustrated that a tourniquet may do great harm. A young man with two companions, seventy miles from a doctor, accidentally shot a bullet through the fleshy part of outer one-third of right arm on inner surface. One companion put on a tourniquet very tight, as they thought the brachial artery was severed. The tourniquet remained in this position till they met Dr. J. Walter Seawell, a long while after accident. There is now a partial paralysis, also ankylosis of wrist and elbow joint. Dr. Dawson and Dr. J. E. Ruddock discussed paper and observations.

Dr. J. H. McLeod, late of Europe, gave a talk on sinuses and the doctor exhibited many slides, showing diseases of sinuses about nose. Dr. Shipley and Dr. Temple spoke upon the subject. The election of officers follows:

President, S. Z. Peoples; Vice-President, J. Walter Seawell; Secretary, Jackson Temple, and Treasurer, Lizzie Lain.

Dr. W. J. Kerr invited the Society to a feast of good things, hot turkey and all that goes with it.

The next meeting will be held in Petaluma, Jan. 7, 1910.

G. W. MALLORY, Secretary.

## BOOK REVIEWS

**Operative Surgery.** By Warren Stone Bickham, M. D., New York. Late Instructor in Operative Surgery at Columbia University, New York, etc. One Volume, 1204 Pages, 854 Illustrations. Third Edition. W. B. Saunders Co., Philadelphia, Penn.

Credit is due the publishers for the way this book comes from the press,—the printing and arrangement of facts, together with the indexing, make it a pleasant book with which to work. The typographical and grammatical errors are as few as one sees in a publication of this character. The preface of the first edition tells briefly what the object of the book is and what ground it expects to cover. This is well written. Here the author shows his appreciation for the profession and for his co-workers. In the contents is an excellent arrangement which simplifies the task of finding subjects.

We believe that the operative part of surgery consists mainly of knowledge of anatomy, as does the author, though we do not agree with him that anatomy should be discussed in a work on surgery. The space is so limited in a one volume text that the anatomy cannot be described sufficiently to make it valuable. The surgeon should be referred to his many works on anatomy which will make the subject much more comprehensive to him. We do not approve of the teaching that "pulsation" is a good method of locating an artery, page 18. It may be a good guide but the one who depends upon it is a poor surgeon.

The utilization of one figure for illustrating several points is to be praised. For instance, the cut on page 23 shows (1) the ligature being pulled from the carrier; (2) making tension with the tips of the fingers while tying the knot rather than making tension with the thumbs as many do; (3) the surgeon's knot. This knot, however, is incorrectly tied. When two turns are used in making the first half of the knot, two turns should be used in making the second half. This makes a smooth knot that will not slip. The continuance of the blood to flow through an artery that has been tied can scarcely be spoken of as "allowing the establishment of a small stream of blood," page 24. The illustration on page 54 shows the supra-scapular artery passing downward in front of the subclavian vein. This artery should be represented in a higher plane than that of the subclavian vein. The illustrations which represent cross sections of various parts of the body are quite valuable.

The subject of vascular surgery is very well written. We regret, however, that the author has left unmentioned the most potent factors in the suturing of arteries and veins, viz., handling them with fingers only, removing all adventitia, not permitting any to be carried into the lumen of the vessel, and keeping the vessel and suture covered with a heavy coat of vaseline. Under treatment of vascular neoplasm the author neglected to mention the use of carbonic acid snow. This is modern treatment and gives the best results.

Advising to "catch the vein with forceps" and "avoid taking the intima in the grasp of the suture," is erroneous. The "large veins" of which the author speaks are deeply situated, hence their walls are extremely thin; furthermore, intima should be brought in contact with intima by the suture passing through all the coats of the vein.

Surgery of the lymphatics is very concisely explained. We are inclined to think the article would have been more valuable had the author impressed the reader with the importance of exposing the more important structures in the neck at the beginning of the operation, thereby avoiding injury to them, and with the fact that operations begun to remove small areas of infected glands often end in long, tedious dissections.

The expression, "Outer Canthus of Eye, zygomatic arch, meatus auditorius externus, angle and horizontal ramus of lower jaw," page 181, is objectionable because two forms of nomenclature have been used, and because it is inferred that the lower jaw has a horizontal ramus. The rami of the mandible are perpendicular to the body of the bone. The descriptions of the removal of the gasserian ganglion are well written and include the most acceptable methods. The protection of the eye during and after the operation has not been brought out, however. This is of great importance, as corneal ulcers are prone to follow if the eye is neglected. It is not clear why the author repeatedly speaks of "shaving the part to be operated" and gives no other instructions in preparing the patient. It would have been well to have devoted a chapter to preparation of patient, surgeon and assistants.

The figure on page 249 is enormous in size, made at the expense of the text, and of very little value. Chapters IX, X and XI, Part 1, are treated so meagerly they might as well have been left unwritten. "Douching with hot water" does not convey much meaning to young surgeons and nurses. The temperature of the water should always be stated in a text. We do not understand why the author uses chromic catgut in suturing muscle tissue during amputations. Numerous cases of 20 to 30-day forms of chromic catgut have been recorded as being removed from sinuses months after operations. We recall two cases, one where 20-day gut was removed 125 days after operation with the knot intact; the other, where it was removed five months after being inserted.

It must be admitted that a large per cent of amputations are done in infected areas, as in railroad and factory work, and that iodized catgut sets free a certain amount of iodine which has a prohibiting power over the reproduction of bacteria near the suture; further, that the iodized gut is more surely to be absorbed near the time the surgeon intends it to be. Under "D," page 651, an erroneous way of making a lumbar puncture is shown. It requires

only one dissection of the lumbar vertebrae to convince one that the needle should be inclined inward and upward in only the slightest degree.

Had the author warned against the incision extending into the areolar tissue around the nipple, in treatment of abscess of the breast, many unsightly scars would have been prevented. Grasping the tip of the appendix with forceps, referred to on page 905, is a common and bad practice. We have seen cases where if the appendix had been grasped by forceps a clean operation would have been converted into a pus case, owing to the presence of a small abscess in the tip of the appendix. It is just as effective to grasp the meso-appendix at its free border close to the appendix.

The advice to "scour the breast and nipple" is very dangerous. There are too many young surgeons who scour the operative field. The process of scouring has caused many infections. Operative fields should be very gently cleansed, keeping in mind that harsh rubbing and stiff brushing rob the tissues of just the thing upon which we must depend, that is, their natural defense against the action of the bacteria that remain even after the best surgical cleansing. "Antimesenteric," page 910, and "undisarticulated," page 462, must be original with the author. They are very poor words. The author stated in the preface that he would give credit to those who worked out operations by mentioning their names when known. Evidently many have not come under his notice.

The many headings in such bold type may add to the value of the book, but they tend to produce a newspaper effect. The chapter on bone grafting is treated in too little detail. We should like to know how the author "sterilizes collodion." One might as appropriately speak of sterilized iodine. The surgery of the brain and that of the abdomen are very well written. These articles alone would make the book a commendable one. The composition of the book reveals much intelligent and painstaking effort. With its up-to-date effect, and concise explanation of facts, it should be in every surgical library. The work includes all surgery of the body from the eyes and ears to that of the feet. This, to be sure, makes details impossible, and causes many fields to be briefly treated, yet the author's tact has made it possible for him to express valuable ideas on all subjects.

The criticisms we have made are fewer than might be made of any volume of this kind that we have read. We think this is the best one-volume operative surgery to be obtained. H. E. C.

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**Facial Spasm and Tic, Diagnosis and Treatment.** Monthly Cyclopaedia, January, 1910. Tom A. Williams, M. B., C. M. (Edinr.), Washington, D. C.

This is a practical paper pointing out when surgery should and when it should not be used in "spasmodic" disorders of the face and neck. The author explains why torticollis has been the despair of the surgeon. It is because the great majority of these cases are purely psychogenetic. Cases of his own and of others are reported in illustration. The mode of genesis of the affection, the diagnostic differentia, are indicated, and finally the psychotherapeusis required is alluded to. The principal criteria are in the form of a table which follows:

Spasm—Sudden, resembling electrical stimulation. Rythmic and synchronous, or in lightning waves of same movement. Muscles often enfeebled. Exaggeration of reflex concerned only. Distribution of peripheral nerve. Often painful, always distressing, no craving. Persists in and may interrupt sleep. Purposeless. Irreproducible voluntarily, unmodified by volition or emotion. Various etiology, but generally peripheral irritation, e. g., trigeminal neuralgia (which is not a true tic).

Tic—Brusque and brief, slower. In volleys of similar movement repeatedly. When tonic distinguished from stereotyped act by absence of catatonic aptitude. No weakness, often hypertrophy. Reflexes normal. Locality condition by an dea. Painless. Tic disappears in sleep. Pseudo-co-ordinate, intentional act. Influenced by emotion or volition, but impulsive and followed by satisfaction, always arrestible (leaving no trace) by a subterfuge, a neutralizing act inefficacious mechanically or physiologically but effective psychically; also variously by solitude, distraction, position, etc. Psychasthenic character. Similar heredity, but always first generated by a determining stimulus; it is the sequel to the unhindered repetition of a once voluntary purposive act, becoming an impulsive obsession.

Chorea—Still slower. Irregular, not synchronous. Extreme variability in movement with tendency to unilaterality. Myasthenia, hypotonia. Reflexes often modified. Laterality. Sometimes painful. Sleep interfered with. Purposeless. Incontrollable by will, aggravated by emotion. Acute rheumatic diathesis, probably bacterial. No similar heredity.

Cerebellar and rubro-spinal tremor—Not sudden, but regular and increasing by movement. Similar oscillations. Myasthenia, hypotonia, or the reverse. Reflexes increased. Laterality or not. Never painful. Disappears in sleep. Purposeless. Cease at rest. Various, neoplasm.

In conclusion, some cases of hysterical origin are cited which exemplify the need (elsewhere discussed at length by the writer) Arch. of Diagnosis, Jan., 1909 of distinguishing between that psycho-neurosis (which is only occasionally the cause of tic), and the much more frequent affection, the psychasthenia of Janet, which is by far the commonest cause of the spasmoid movements or attitudes to which the term tic should be confined. The outstanding feature of these cases is the psychological abnormalities revealed by a skillful anamnesis. These may reach the point of angoisse when determined voluntary efforts are made to suppress the tic; but as Meige has shown, skillful psycho-motor discipline can practically eventually remove even the most obstinate tics.

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**A Practical Treatise on Ophthalmology.** By L. Webster Fox, M. D., LL. D. Professor of Ophthalmology in the Medico-Chirurgical College; Ophthalmic Surgeon in the Medico-Chirurgical Hospital, Philadelphia, Pa., Member of the Army Reserve Medical Corps, etc. With Six Colored Plates and Three Hundred Illustrations in Text. Publisher, D. Appleton & Co., New York and London; 1910.

Beginning with a short but comprehensive chapter on the development of the eye, the author reviews the anatomy and external examination in a clear and lucid manner.

The diseases of the eyelids occupy fifty pages odd and practically every interesting condition is illustrated by an original drawing of one of the author's own cases. It is interesting and refreshing to have a text-book which is really personal and human, an individual's experience and recommendations, not a rehash of former methods. The operations are described following each condition, which imparts to the work an added value from a coherent standpoint.

The extirpation of the lachrymal sac is thoroughly described and well illustrated. Fuch's method is recommended, and in that I heartily concur. While an assistant at Professor Fuch's clinic in Vienna the extirpation of the lachrymal sac was practiced extensively, as the material was far too great to admit

of long continued probing. The operation is a most delicate one, but when the sac is really extirpated and not curetted the result is usually gratifying. Professor Silex of Berlin watched a number of such operations done by us and a few weeks later when I visited him at his clinic in Berlin I noticed that he was forced to curette instead of extirpating, showing how difficult this operation is and how carefully one should follow the directions.

The diseases of the conjunctiva are prefaced with a few paragraphs on the bacteriology, a most welcome innovation in our late text-books on ophthalmology.

Here, also, the operations follow and particularly is the pterygium procedure well shown and described. To digress I may say that the successful removal of pterygia taxes an ocular surgeon's skill, and it is here that the young practitioner is judged and not by the cataract extractions, which are few and very far between.

The Major Smith operation for cataract receives ample space, as do the most important procedures on the globe.

Refraction, the major part of the ophthalmologist's work, is well undertaken and sufficiently recent as to contain an illustration and explanation of the Sutcliffe Keratometer.

Fox devotes a chapter to the "Ocular Manifestations of General Diseases," and one to "The Pupil in Health and Disease—the Ocular Manifestations of Nervous Diseases." These are by no means exhaustive but the work is not a handbook, but a practical guide, as its name implies, for students and practitioners.

Of especial interest to me is the chapter on "Laboratory Technic," and I am familiar with no other book of like size containing same.

In resumé I wish to congratulate Fox on an addition to our books on Ophthalmology and D. Appleton & Company on their courage in publishing a work entailing the tremendous number of original illustrations.

I take pleasure in recommending this treatise to the profession and to my students at the University of California. W. S. F.

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**Physical Diagnosis.** By John C. Da Costa, Jr., M. D. Publishers, W. B. Saunders Co., Philadelphia.

The preface sets forth the book's purpose, which is borne out by a review of the text. The author in this text meets the needs of junior students relative to "clinical anatomy and to the origin, mechanism and meaning of normal physical signs." The observer is encouraged to follow the research method in the study of thoracic and abdominal conditions. All available data is to be gathered both by direct examination and recognized instruments, together with laboratory methods, and conclusions arrived at by comparison and correlation of all data.

The text does not attempt to detail laboratory or X-ray technic, but states when such procedures are indicated.

The cuts, 212 in number, are simple and convey directly what it is intended to teach. A number of photographs from life are introduced. The sphygmomanometer and sphygmograph are illustrated in their use.

A pleasing historical review of auscultation and the stethoscope is introduced.

The description of each disease is prefaced by the clinical pathology which makes clear the reasons for the various physical diagnostic signs. The cuts illustrating the gross pathology are in black and white.

The section upon broncho-pulmonary disease is illustrated by a number of radiographs which are very clear.

Physical diagnosis of the cardio-vascular system is illustrated by a comparison of many pulse tracings and many diagrammatic representations of the heart sounds.

In fact, the book is sufficiently elementary to meet the needs of junior students and to refresh the practitioner, and yet comprehensive enough to supplement texts upon medical and surgical diagnosis.

Francis Williams, M. D.

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**A Sidelight on the Syphilitic Actiology of Tabes.** Trans. Am. Med. Assn., 1909. By J. J. Putnam, Boston. (Abstract by Dr. T. A. Williams, Washington, D. C.)

The writer has never seen a case where syphilitic infection, or at least illicit sexual intercourse, could be ruled out, nor a tabetic woman in whom the absence could be proved. Not only is fatigue, as invoked by Edinger, inefficacious, but it does not even determine the localization of the tabetic process; or a general fatigue, unattended by any obvious strain, even psychogenic in kind, may light up tabes of the lumbar roots; and there is no evidence to show that superior tabes is characteristic of the brain worker, or optic atrophy of those using their eyes excessively. He compares the cord degenerations with those in pernicious anemia, as in both the sensory system is most affected, and both begin with paresthetic symptoms. In a hundred cases of this kind he has not seen a single established syphilitic. The lesions of this disease are truly due to physiological disorder of the nervous elements by failure of nutrition. The morphological contrast is equally striking; for in tabes the changes are confined to the neural elements. They are secondary degenerations, whereas the cord in pernicious anemia presents masses of changed tissue related arterially, and not neuronically or functionally, and spreading laterally, not systematically. Indeed, actual cavities may occur in the disease when the process is rapid. Thus, as fatigue may be considered as playing a clear part in pernicious anemia, and the lesions of that and of tabes should resemble one another were the latter contributed to by fatigue. Hence we can conclude that there is an essential difference in the pathogeny of the two disorders.

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## PHYSICIANS' AID.

To the Secretary of each State and County Medical Society and Other Interested Members:

At the last meeting of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted: "The Committee recommends that the President of this Association appoint a committee of five members to inquire into the desirability and practicability of the establishing under the auspices of the American Medical Association of a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association as may be afflicted with tuberculosis or similar diseases; such committee to report to the House of Delegates at the next annual meeting of the Association."

As a basis for wise action the Committee urges that the officers of State and County Medical Societies, and others interested in the subject, should at the earliest possible date forward to the Secretary of the Committee, Dr. A. C. Magruder, Colorado Springs, Colorado, answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your State Medical

Society, or local society for the care of destitute and disabled physicians and those dependent upon them? If so, how is such care provided?

2. What number of instances of special need for such assistance (or sanatorium treatment) have arisen in your locality within the last five years and what number of your members need such assistance now?

3. About how many members of your County Medical Society are at present afflicted with tuberculosis or similar diseases, or have within the last five years died or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each County and State Society at its next regular meeting, and that the desired information be furnished our Committee at the earliest possible date.

Fraternally yours,

EDWARD JACKSON, Denver, Colorado.
JEFFERSON R. KEAN, Washington, D. C.
A. T. BRISTOW, Brooklyn, N. Y.
H. B. ELLIS, Los Angeles, California.
V. C. MAGRUDER, Secretary, 305 N. Tejon St., Colorado Springs, Colorado.

## W. B. SAUNDERS COMPANY, AND NOT APPLETON.

In the February issue was a review of Kerley's Treatment of Diseases of Children, which, unfortunately, was credited to Appleton & Co., as publishers. This is an error; the book was published by W. B. Saunders Company, Philadelphia.

## DR. McCLEAVE'S PAPER: A CURIOUS MISTAKE.

To the Editor California State Journal:—I note with surprise the publication in the February number of a paper of mine on "The Present Status of the Osmic Acid Treatment of Neuralgia." This paper was written for the meeting of the State Society in April, 1906, and its publication four years later, especially in view of its title, can hardly be of any value, and as it is unaccompanied by any qualifying date, it is surely misleading. The statistics of the surgeons quoted would doubtless require considerable amplification, and for myself, I should desire to very materially alter the paper before submitting it to your readers to-day.

Indeed, I suspect the appearance of the paper at this time is due to some inadvertence, and as I am unwilling that so old a writing of mine should be promulgated as of recent date, I will appreciate it if you will, in your next issue, in whatever way seems best to you, indicate to the Society the real status of the paper.

Thanking you, I am

Very sincerely yours,

T. C. McCLEAVE.

(Note—The above mentioned paper was received, together with a number of others, at the Journal office a few months ago. Where it has been since April, 1906, we do not know; how, why or by whom it was sent to the office, we do not know. There was nothing to indicate that it had not been recently written. This seems to be one of those curious instances of inexplicable things that "just happen." —Ed.)

## NEW AND NON-OFFICIAL REMEDIES.

Since advising you November 1, the Council has acted on the following products:

Articles accepted for N. N. R.:

Orphol (Schering & Glatz).
Orphol Tablets (Schering & Glatz).
Arsen-Triferrin (Knoll & Co.).
Arsen-Triferrin Tablets (Knoll & Co.).
Arsen-Triferrol (Knoll & Co.).
Lactophenin (Merck & Co.).
And a large number of serums and vaccines.

## NEW MEMBERS.

**Mills, Jno. M.**, Arcata.
**Van Patten, P. S.**, Nordhoff.
**Himmelsbach, Wm.**, Carmel-by-the-Sea, Cal.
**Gould, N. B.**, Gonzales.
**Parker, Garth**, Salinas.
**Beck, G. A.**, Salinas.
**Sawyer, H. C.**, San Francisco.
**Duncan, F. T.**, Oakland.
**Tisdale, C. L.**, Alameda.
**Gleason, Chas. D.**, San Francisco.
**Philbrook, E. B.**, Santa Cruz.
**Chapline, Frank L.**, Orange, Cal.
**Davis, Wm. S.**, Fullerton, Cal.,
**Hasson, D. W.**, Buena Park, Cal.
**Wickett, H. W.**, Anaheim.
**Lockwood, M. M.**, Colusa, Cal.
**Smith, D. R.**, Belmont, Cal.
**Davis, Chas. A.**, Bakersfield, Cal.
**Brooks, Ezra**, Holtville, Cal.
**Richter, H. C.**, Calexico, Cal.
**Petterson, F. W.**, El Centro, Cal.
**McComb, V. J.**, El Centro.
**Patten, E. E.**, Imperial.
**Bumgarner, Geo. M.**, Imperial.
**Miller, Jos. A.**, Brawley.
**Standlee, C. E.**, Brawley.
**Cooke, J. L.**, Brawley.
**McCracken, C. L.**, Redwood City.
**Smith, F. H.**, San Bruno, Cal.
**Warren, H. C.**, San Mateo.
**Garvey, Walter**, Kennett, Cal.
**Newman, W. H.**, Long Beach, Cal.
**Hill, W. B.**, Long Beach, Cal.
**Duncan, Rex**, Los Angeles.
**Stinchfield, H. C.**, Los Angeles.
**Hastings, S. W.**, Los Angeles.
**Simonds, Paul C.**, Los Angeles.
**McCoy, Geo. W.**, Los Angeles.
**Fletcher, Mary D.**, Oakland.
**Mackay, Emma S.**, Berkeley.
**Archibald, R. A.**, Oakland.
**Bixby, W. E.**, Cowell, Cal.
**Stone, E. A.**, Oakland, Cal.
**Piper, H. E.**, Livermore, Cal.
**Jackson, W. J.**, Oakland.

### Resigned.

Van Slyck, David B., Pasadena, Cal.
Osler, Chas., Tuolumne.
Deering, W. E., Hollywood, Cal.
Thomas, Benj., San Jose, Cal.

### Deaths.

**Carson, J. L.**, Bakersfield, Cal.
Balch, Edw. T., Santa Barbara.
Gleason, Flora, Corona, Cal.
**Holden, Jos. M.**, Long Beach, Cal.
Noble, Edward, Berkeley, Cal.

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Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

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## EDITORIAL NOTES.

**COMMITTEE ON ARRANGEMENTS.**

The Committee on Arrangements for the coming meeting of the State Society—the Fortieth Annual Meeting — announce that their plans are practically completed. As already stated in the JOURNAL, the Hotel Sacramento is to be the headquarters and members should make their reservations as early as possible. Other good hotels are nearby, however, in case the Hotel Sacramento can not hold us all. On Tuesday afternoon, April 19th, Dr. James H. Parkinson, President of the Society, will entertain the visiting ladies at his residence, and on the same night a smoker and informal reception will be held on the roof garden of the Hotel Sacramento. Wednesday afternoon there will be an excursion to Fair Oaks and Orangevale, and on the same evening, after the session of the House of Delegates, there will be a reception at Elks' Hall. Thursday afternoon there will be an excursion on the river for the ladies, and on Thursday night a general reception at the Crocker Art Gallery, to be given by the Sacramento County Medical Society. The Hotel Sacramento has arranged a special rate of $3.50 and $4.00 per day on the American plan. The various sessions of the Society will be held in Elks' Hall, which is quite near to the hotel. The usual railroad rates of one and one-third fare for the round trip will prevail. Pay the full fare for the going ticket, and be sure to *get a receipt certificate* when you buy the ticket. This must be signed by the Secretary at the meeting. When you return, present this to the ticket agent and the return ticket will be issued for one-third fare. But *be sure you get your receipt certificate; if you fail to get it you can not secure the one-third return rate.*

**SOMETHING FOR NOTHING.**

The desire to get "something for nothing," whether it be by playing the races, the stock market or merely piling up the "unearned increment," is a fundamental characteristic of human nature. Deep as the pliocene and broad as earthly evolution from protoplasm to *genus homo*, is this inherent desire to get "something for nothing." Did you ever see anyone giving away anything of value absolutely for nothing (except in the case of charity), unless he expected to get back a little more than he gave? No; but on any street corner you can see someone who is either scheming or trying to *get* "something for nothing." All this is suggested by the attempt of the "Kaplan Medical Publishing Company" to quietly appropriate the Register and Directory which belongs to the State Society. The scheme was a clever one. This company (the incorporators appear to be Henry Kaplan, Dr. D. A. Hodghead and someone named Davis(?) ), has said, in effect, to all the members of our Society: "We will publish this Register four times a year and combine with it masterly (?) reviews of all medical progress; and we will send it to you, four times a year, FREE!" How touchingly benevolent! This "company" is so philanthropic in its desires that it just cannot help giving away for nothing what it costs a good deal to produce. Why should it want to present you with "something for nothing?" Why? It is still more of a mystery when we remember that the offer to do this was made to the Society last April—and, by the House of Delegates, declined. And still these gentlemen are insistent in their philanthropy; they simply *must* give the members "something for nothing." Why? If you look at it in that light does it not seem to you to be, well, just a little bit queer? If either Mr. Henry Kaplan or Dr. D. A. Hodghead have heretofore been noted for their pure and heavenly philanthropy it has, in some unfortunate way, escaped our attention. This might be qualified in some measure in the case of Dr. Hodghead (if he is still connected with the Kaplan Medical Publishing Co.), for it is understood that he is and has been for some few years, actively interested in one of those "pay-a-dollar-a-month-and-we-treat-you-for-nothing" companies, where the subscriber gets just about as much medical treatment as he pays for and which claim to be formed for the high and lofty purpose of furnishing medical and surgical aid to the poor—not for revenue only; Heaven save the mark! Oh, no! Not at all! It is another form of the philanthropic spirit that will not down. It is again "something for nothing," but the trouble is to determine who gets the "something."

**A FINE SCHEME.**

The explanation of this attempted calm appropriation of the Register and Directory by the Kaplan Medical Publishing Co., is a very simple one. Indeed, it is almost too simple when one really sees into it. It is not an easy matter to start a medical journal and quickly secure a large circulation, upon which advertising rates are based. If you were to start one to-morrow you would find that you would lose money for a long time before you had enough subscribers to make it an object for anyone to advertise in your publication; and you would find it very slow work to get subscribers in a territory already supplied with several medical journals. But suppose you could, in some way, put into your medical (?) journal something that would make a demand for it; that would make a few thousand physicians require it? If that were the case and you could make a demand for it by say 2,000 physicians, you could afford to give it to them for nothing—for a year or so—knowing full well that eventually you would get your money back from the advertising, and that you could, when you had established the demand, charge a subscription price for your publication instead of giving it away. It is never safe to predicate exactly what other peoples' motives may or may not be, and we are not sure that this was the motive or the intention of the Kaplan Medical Publishing Company. But, it is certain that, by including the register and directory as a part of a quarterly medical publication, an instant demand was secured for that publication. To how many members would the "Practitioner's Digest" be of any value if it were not for the inclusion of the register and directory? And how long do you suppose it would continue to be sent to you "free"? Just think these things over; and remember that it is very nice to get "something for nothing"; nice for the fellow who does the "getting."

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**HOW IT HAS HAPPENED.**

The Council of the State Society was not in any way a party to this appropriation of the Register and Directory by Mr. Henry Kaplan or the Kaplan Medical Publishing Company. Quite the contrary. In 1906, after the fire, a verbal contract was made with Kaplan allowing him to issue the Register at his own risk and to get what he could out of the advertising which was to be subject to the approval of the Publication Committee. In 1907 a written contract, drawn up by our attorney, was entered into between the Society (through the Council) and Henry Kaplan, which was practically the same as the verbal contract; we were to furnish the information, changes, correct the proof, etc., and he was to furnish us with enough copies for our members and to get what he could out of the advertising. This contract was renewed in writing in 1908 and again, and *after the proposition to print the register as part of a quarterly medical publication had been rejected by the House of Delegates of the State Society,* in 1909. In passing, it may be said that prior to 1906, the Society published the book, paying Mr. Kaplan the liberal commission of 33 1-3% on the advertisements secured; the book was thus always published at a loss to the Society. Mr. Kaplan had been identified with the work of securing advertisements for the Society's publications for some years and doubtless there is, in the minds of many people, an impression that he is still connected in some way with the Society. We do not know that any representations were made to the effect that the "Practitioners' Digest" (including the Register and Directory) was endorsed by the Society or that the Society had anything to do with it. But the fact remains that a very large number of people seem to be of the opinion that the publication in question is endorsed by, or approved by the State Society. This could not be the case, for the Society had already, by a vote of the House of Delegates, rejected the proposition absolutely. It was thought to be unwise to aid in starting a privately-owned medical journal over which the Society would have neither advertising nor editorial control. It was tantamount to giving away, for nothing, the property of the Society. And so the matter stands. Mr. Kaplan has clearly violated his contract with the Society, has told the House of Delegates most impudently that he will pay no attention to the wishes of the Society and that he will do what he pleases with the property of the Society. Consequently, the Council has ordered suit against Mr. Kaplan for these various reasons. Those members of the Society who are in any way helping Mr. Kaplan, either by sending in changes of address, writing for his publication or otherwise, are merely aiding him to take away from themselves some of their own property and to build up, through the false semi-connection with the State Society, a privately-owned medical (?) publication which might, in time, be as bad in the matter of its advertised fakes as most of the other privately-owned medical (?) journals are at the present time. But it is up to the members of the Society to determine whether they shall give away their property or keep it in their own hands.

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**THE POOR SUFFER.**

Probably a considerable majority of voters, especially in the larger centers of population, are either poor or of but moderate means; comparatively few could be truthfully called wealthy. And yet, singularly enough, the majority seems to fail consistently and persistently to guard its own interests. The man of wealth can build his house in the healthiest and mose desirable section; he can so plan it as to get the maximum of sunshine and fresh air; he can provide for himself and for his family every littlest thing that makes for the maintenance of health. All this the more-than-average voter cannot do. The tuberculotic is generally of the poorer class, especially in cities, and he is the victim of insanitary surroundings, improper living quarters, insufficient sunshine and fresh air—and of his own ignorance and indolence in the matter of taking advantage of his might, the majority vote. Several years ago this JOURNAL devoted con-

siderable space to the argument that, in San Francisco, the labor unions were in control of the situation and that it would be the part of wisdom for them to provide for themselves in the matter of unexcelled hospital facilities; and yet it was a struggle to get even tolerance when the effort was made to secure funds for a proper City and County Hospital. The very class then (and now) in control of the city government of San Francisco is the class that suffers most from the privations which follow upon illness. When the laborer falls sick he must needs, almost always, promptly go into debt, for at best he has small chance to save up much money. The wealthy man can pay for any hospital luxuries that he chooses; but the poor man, the majority voter, must soon, if his illness lasts any length of time or is such as to call for hospital treatment, be sent to the city or county institution to be cared for at the public expense. This same singular apathy has very recently been noticed in San Francisco, where the element in control—the labor unions—fails to see the wisdom of guarding their own interests. Ordinances were passed some time ago, compelling the landlord to furnish a minimum amount of light and air when building his tenements. Quite recently a strong effort has been made to alter these building ordinances so as to permit the landlord to cut down this allotment of light and air and thus get a little more money from his land—at the expense of the health of the poor. In spite of protests from sanitarians, the Board of Health, prominent architects, charitable organizations, etc., it rather appears, at the present writing, as though a labor union Board of Supervisors and a labor union Mayor would voluntarily and stupidly give away a large portion of their present right to air, sun and health. It is, indeed, a queer world.

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## MEDICINE'S LITERARY JUNGLE.

In a recent article in the *Journal of the American Medical Association* Dr. Edward Jackson, of Denver, views with dismay the ever extending circle of medical literature but does not prescribe a remedy. The physician, with periodicals heaped upon his office table and very limited leisure, selects articles whose titles appeal to him or those whose authors he holds in high esteem. A very few are to be read with the greatest care; sometimes more than once. A limited number embody the results of experimentation and their value is usually in inverse ratio to their length. Others, stilted in style and verbose in expression, have been written for some "occasion"; not because the writer has any message to deliver but because he or someone else believes that he should be heard. This class contributes largely to the journalistic mire in which we all flounder. We grasp eagerly the article which collates a series of cases and look for the deductions which the author draws from them. But here we are sometimes disappointed. The writer may be a famous specialist, more concerned with impressing upon the reader the number of operations which he has done in this particular field, or the many patients with the same group of symptoms who have come under his eye, than in imparting valuable information.

S. Weir Mitchell has said that there are very few individual case histories which merit printing and yet there is no doubt that much valuable material is lost by practitioners neglecting to publish extraordinary conditions. In a recent talk with the Librarian of the Surgeon-General's Library at Washington the writer was informed that case reports, no matter how obscure the journal in which they appear, are always catalogued with great care. The magnitude of this task can be appreciated from his statement that one volume of the great catalogue will be necessary to cover the titles of articles on Tuberculosis published since 1893. It must be affirmed, however, that the recounting of the "case" is of generally greater interest to the narrator than to his audience.

The article which embodies a critical review of our knowledge of a subject and then adds a little more is of distinct value. It places within our grasp a series of facts which may possibly have been gathered only after long and diligent reading and observation, while these facts form an illuminating setting for the grains of truth which the writer presents as his offering to the healing art.

The subdued reaction which has taken place against clinical articles has led to many absurd publications from laboratory men. You read rather languidly some forty pages of text in which the author endeavors to perfect himself in a particular technic in experimental surgery. This is of no importance to you but of the greatest import to the author. After narrating possibly fifty experiments in detail he arrives at conclusions which could have been expressed in a single well-worded paragraph. A man may labor assiduously in experimental work for months and yet have nothing new to impart. Those who have thus toiled know that laboratory life is also made up of the little things, but why the reader should be regaled with them it is difficult to understand. Here are a few choice bits taken at random from authors who cover pages of expensive broad-margin paper with such drivel:

"July 1. Dog wags tail to-day." (Exhibiting author's acumen.)

"Sept. — Entered recovery room to see dog take last three breaths." (Note the accuracy of this statement.)

"Aug. 6. Dog growls when approached so I could not make usual observations."

"The black and white mongrel (No. 36) was killed in a dog fight on the roof."

There are touches of pathos about this work that have a strong altruistic, though a doubtful scientific, value.

The man who has taken advantage of his clinical experiences, who has thought and studied over the questions to which they give rise and has added to his particular knowledge by extensive reading, is always worthy of a hearing, whether he be a Uni-

versity professor or an obscure country practitioner. It was in the then little town of Montgomery, Alabama, that J. Marion Sims laid the foundations of gynecology. True it is that the circle of medical contributions is ever widening but we could materially decrease its circumference with decided advantage. Then it might be possible for one individual to see in all directions as far as the horizon, providing his viewpoint were sufficiently elevated.

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**LEST WE FORGET.**

This is just to remind you that we have, in the office, a department of exchanges and locations which is entirely at your service; at the time of writing there are a number of excellent openings for young and energetic physicians. There are also frequent demands for internships and partnerships, some of them being very attractive. If you are thinking about changing your location, write to the office of the Society and tell us about what you want and about what you will leave when you make a change. Also, if you want an assistant, or know of a hospital opening, or anything of that sort, let us know. This is just a regular part of the work of the Society and we are only too glad to be of any aid in these matters. Almost every month, too, there are advertisements of locations or equipment for sale, and if you contemplate a change it will pay you to look through the JOURNAL carefully every month.

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## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

*Journals of Tropical Medicine.*

The writer has not infrequently been questioned regarding current literature on tropical medicine. There are numerous periodicals partially or entirely devoted to the subject. Among journals published in English the *Journal of Tropical Medicine and Hygiene* (London), the *Annals of Tropical Medicine and Parasitology* (Liverpool), and the *Philippine Journal of Science* may be mentioned. The French *Revue de la Médecine et d'Hygiène* and the German *Archiv für Schiffs- und Tropenhygiene* are both of interest. Valuable contributions also appear in the French and Italian journals of colonial, naval and military medicine and in the health reports of most tropical colonies. Much admirable tropical material may be found in the reports of various research institutions, such as the Wellcome Laboratories at Khartum, several government laboratories in India and the Research Laboratories at Kuala Lumpur in the Federated Malay States. An excellent review of most of the literature of tropical microbiology may always be found in the *Bulletin de l'Institut Pasteur* (Paris). The writer will be glad to answer any questions in his power concerning the bibliography of tropical disease.

*Gangosa.*

We have recently had the privilege of seeing this terribly mutilating disease through the courtesy of Dr. Simons, Medical Director of the Naval Station at Vallejo. Dr. Geiger of the Naval Hospital has done some remarkable and interesting work on the etiology and treatment of the affection, and further investigations are planned. On the completion of these investigations definite conclusions will be published.

*Sleeping Sickness.*

The sensational predictions in the daily press regarding the probable infection of Mr. Roosevelt and his party with trypanosomiasis have focused popular interest on this disease. The last bulletin of the London Sleeping Sickness Bureau for February lies before us full of the most recent findings regarding the scourge. It seems to be rapidly advancing northward from the French Congo. The efforts in northeastern Rhodesia to remove natives from sleeping sickness areas to sanitary camps outside of the fly belts is meeting with considerable resistance from the natives themselves, and is evidently less effective in practice than the scheme appears on paper. Commissions for the study of the disease, headed by Drs. Kinghorn and Rodain, are now working on the Gold Coast and on the headwaters of the Congo, respectively. Among the most interesting of the recent discoveries regarding the fly which spreads sleeping sickness is that the form of *Glossina palpalis* described by Austen as *wellmani* is not only the southern representative of the sleeping sickness tsetse, as was at first thought, but that this type is found also at the extreme northern and eastern limits of the fly area. In other words, the sleeping sickness fly (*palpalis*) "at the periphery of its area of distribution tends to become atypical and to assume the form known as *wellmani*."

*Dr. Gunn's Lecture on Tropical Disease.*

On the evening of February 14th, Dr. Herbert Gunn addressed the physicians of Oakland on the subject of the Tropical Intestinal Fluxes found in California. The lecturer passed in review the diseases observed by him in this State which give rise at some time in their course to the symptom of intestinal flux. Some of the diseases mentioned were Cochin China diarrhea, connected with the presence of a nematode worm (*Strongyloides intestinalis*) in the feces, hookworm disease, infection with the infusorian *Balantidium coli,* chylous diarrhea due to filariasis, infection with the flukes *Clonorchis sinensis, Paragonimus westermanni, Schistosomum mansoni* and *S. japonicum,* sprue and *intestinal* amebiasis. The address, besides being significant as an index of the large amount of tropical disease among us, constituted a fitting text for a sermon on the need for routine microscopical examination of the feces in all intestinal disorders.

*A Tropical Medical Club.*

It has been suggested to the writer that a club for the study of tropical disease would be useful here in California. We should be glad to hear further from any who may be interested in such an organization.

# PRELIMINARY PROGRAM AND NOTICE of the

## FORTIETH ANNUAL MEETING OF THE STATE SOCIETY, SACRAMENTO. APRIL 19TH, 20TH and 21ST, 1910.

**Headquarters, Hotel Sacramento. Sessions, at Elks' Building.** Public Health Association and kindred bodies meet on Monday, the 18th.

Railroad rates as usual, one and one-third fare for the round trip. **Pay full fare for the ticket going to the meeting and be sure and get a receipt certificate from the agent at the time you buy your ticket. This must be signed by the Secretary, Dr. Philip Mills Jones, at the time of the meeting.** When you present this to the agent at Sacramento, **a return ticket will be sold to you at one-third the regular fare.** This applies to all railroads.

### FIRST DAY.

### Morning Session.

1. Addresses of Welcome.
   **Hon. M. R. Beard,** Mayor of Sacramento.
   **Hon. J. N. Gillett,** Governor of California.
   **Dr. G. W. Dufficy,** Sacramento County Medical Society.
   **Dr. A. M. Henderson,** Chairman Arrangements Committee.
2. President's Address.
   **Dr. J. H. Parkinson** (Sacramento).
3. Report on Public Policy and Legislation.
   **Dr. O. D. Hamlin** (Oakland).
4. Report of the Committee on Medical Education. (The Present Status of Medical Education.)
   **Dr. Thos. W. Huntington** (San Francisco).
5. A Brief History of Medical Education in California.
   **Dr. Emmet Rixford** (San Francisco).
6. The Present Status of Preliminary Medical Education.
   **Dr. W. Jarvis Barlow** (Los Angeles)
7. Report of the Board of Medical Examiners.
   **Dr. R. F. Burnham** (San Diego).
8. Report of the Committee on Public Health.
   **Dr. F. C. E. Mattison** (Pasadena).
9. Report of Committee on Cancer.
   **Dr. W. F. B. Wakefield** (San Francisco).
10. Report of Committee on Venereal Peril.
    **Dr. A. B. Grosse** (San Francisco).
11. The Doctor as the "Middle Man."
    **Dr. W. F. Snow** (Sacramento).
12. The Making of a Health Officer.
    **Dr. Colby Rucker** (Assistant Surgeon, U. S. P. H. & M. H. S.).
13. A Plea for a State Institution for the Treatment of the Chronic Alcoholic and Drug Habitue.
    **Dr. R. E. Bering** (San Francisco).

### Afternoon Session.

2:00 P. M.

Sessions of the Eye, Ear, Nose and Throat Section and the Genito-Urinary Section occur at the same hour.

### The Genito-Urinary Section.

14. Rectal Tuberculosis.
    **Dr. Geo. S. Whiteside** (Portland).
15. A Case of Acute Septic Inflammation of the Penis following Stricture, with remarks upon the general treatment of such cases.
    **Dr. Granville MacGowan** (Los Angeles)
16. Symposium on the Prostate.
    1—Acute and Chronic Prostatitis.
    **Dr. Victor Veckki** (San Francisco).
    2—Hypertrophy.
    (a) Causes and Diagnosis.
    **Dr. M. Krotoszyner** (San Francisco).
    (b) Treatment (non-operative).
    **Dr. E. G. McConnell** (San Francisco).
    (c) Treatment (operative).
    **Dr. G. S. Peterkin** (Seattle).

Discussion opened by **Dr. J. C. Spencer** (San Francisco).

### Eye, Ear, Nose and Throat Section.

17. Glaucoma.
    (a) A brief discussion as to the cause, and the relief of tension by sub-conjunctival injection of sodium citrate solutions.
    **Dr. Hayward G. Thomas** (Oakland).
    (b) Its Experimental Production.
    **Dr. Walter Scott Franklin** (San Francisco).
18. A Method for Determining the Source of Pus in Diseases of the Accessory Cavities of the Nose.
    **Dr. Henry Horn** (San Francisco).
19. The Differential Diagnosis of Labyrinthine Affections
    **Dr. G. P. Wintermute** (San Francisco).
20. A Report of Mastoid Cases, with Special Reference to Diagnosis.
    **Dr. M. Stephens.**
21. Lantern Slide Demonstrations of Diseased Conditions of Ear, Nose and Throat.
    **Dr. Cullen I. Welty** (San Francisco).
22. The Enucleation of the Tonsil from the Standpoint of the General Medical Man.
    **Dr. Langley Porter** (San Francisco).
23. Pathological Histology of Tonsils.
    **Dr. Hill Hastings** (Los Angeles).
24. The Enucleation of the Tonsil, a Surgical, not a Radical Procedure.
    **Dr. Albert J. Houston** (San Francisco).

### SECOND DAY.

### Morning Session.

25. The Relation of Our Tropical Possessions to California.
    **Major P. M. Ashburn,** U. S. A.
26. Pellagra, with Demonstration of Case.
    **Dr. W. A. Clarke** (San Leandro).
27. Hook Worm, with slide demonstrations.
    **Dr. Creighton Wellman** (Oakland).
28. Amebiases in California.
    **Dr. Herbert Gunn** (San Francisco).
29. Rabies.
    **Dr. Stanley Black** and **Dr. L. M. Power** (Los Angeles).
30. A Case of Filariasis Treated by the Wherry-McDill Method.
    **Dr. Edward von Adelung** (Oakland).
31. Some Aspects of the Squirrel Plague Question.
    **G. M. McCoy,** P. A. Surgeon, U. S. P. H. & M. H. S.
32. A Lantern Slide Demonstration of Skin Manifestations.
    **Dr. Howard Morrow** (San Francisco).
33. Urticaria.
    **Dr. Ernest D. Chipman** (San Francisco).
34. Skin Eruptions Induced by Various Means.
    **Dr. Harry E. Alderson** (San Francisco).
35. Some Points on the Etiology and Treatment of Enuresis.
    **Dr. E. C. Fleischner** (San Francisco).
36. Speech Disturbances and their Treatment from the Present Standpoint.
    **Dr. Henry Horn** (San Francisco).

Authors are requested to select the openers of the discussion on their individual papers. All papers will be strictly limited to fifteen minutes.

37. Report on a Case of Adhesive Mediastinal Pericarditis.
Dr. G. A. Hare (Fresno).

THIRD DAY.

Morning Session.

38. Symposium on Thoracic Surgery.
(a) The Question of Differential Pressure.
Dr. F. Dudley Tait and Dr. Raymond Russ (San Francisco).
(b) Surgery of the Lungs.
Dr. A. S. Lobingier (Los Angeles).
(c) Operations for Empyema.
Dr. ———
(d) The Future of Heart Surgery.
Dr. Harry M. Sherman (San Francisco).
Discussion opened by Dr. S. H. Buteau (Oakland).

39. Symposium on Nephritis.
(a) Hematuria as an Initial Symptom of Nephritis.
Dr. R. L. Rigdon (San Francisco).
(b) Surgery of Nephritis.
Dr. Stanley Stillman (San Francisco).
(c) The Dietetic Treatment of Nephritis.
Dr. Rene Bine (San Francisco).
(d) Nephritis of Bacterial Origin.
Dr. J. J. Hogan (Vallejo).
(e) Experimental Nephritis.
Dr. E. C. Dickson (San Francisco).

40. Value of Rectal Examinations.
(a) Value in Gynecology.
(b) In Pediatrics.
(c) In General Medicine.
(d) In Genito-Urinary Work.
(e) In Surgical Conditions.
(f) In Examination of.
Dr. A. J. Zobel (San Francisco).

41. Presentation of a Case of Injury to the Spinal Cord, Surgery and Recovery.
Dr. C. D. Strong (San Bernardino).

42. Uretero-Cystostomy.
Dr. Geo. B. Somers (San Francisco).

43. Experimental Surgery of the Hypophysis.
Dr. H. E. Castle (San Francisco).

44. Surgery of the Human Hypophysis.
Dr. H. A. L. Ryfkogel (San Francisco).

45. Hyperchlorhydria.
Dr. Wm. Fitch Cheney (San Francisco).

46. The Treatment of Chronic Gastric Ulcer.
Dr. Geo. E. Ebright (San Francisco).

47. The Action and Indication of the Different Diuretics.
Dr. E. Schmoll (San Francisco).

Afternoon Session.

48. Pain as a Symptom in Secondary Syphilis.
Dr. E. W. Twitchell (Sacramento).

49. The Serum Diagnosis of Syphilis.
Dr. L. S. Schmitt (San Francisco).

50. Report on the Work of One Year with Wasserman Reaction.
Dr. H. R. Oliver (San Francisco).

51. A Preliminary Report on the Diagnostic Value of the Intracutaneous Tuberculin Test.
Dr. Geo. H. Evans and Dr. Jas. L. Whitney (San Francisco).

52. Results of Sanatorium Treatment and Tuberculin in Tuberculosis.
Dr. Max Rothschild (San Francisco).

53. Bovine Tuberculin in the Treatment of Pulmonary Tuberculosis.
Dr. W. C. Voorsanger (San Francisco).

54. Tuberculous Ulceration of the Rectum.
Dr. W. H. Kiger (Los Angeles).

55. The Value of Rest in Treatment of Tuberculosis.
Dr. Robert Peers (Colfax).

56. Demonstration of Muscle Rigidity as a Sign of Disease within the Chest. A method of outlining organs by light touch palpation.
Dr. F. M. Pottenger (Monrovia).

57. Thoughts on Tuberculosis, its Communicability and Prevention.
Dr. W. S. Watson (Sacramento).

## MEETING OF THE CERTIFIED MILK COMMISSIONS OF CALIFORNIA, AT UNIVERSITY FARM, DAVIS, CALIFORNIA, 2 P. M., APRIL 18, 1910.

Papers and reports will be read by members of the commissions dealing with various phases of the production and distribution of certified milk.

Autopsies on tuberculous cows, and the technique of the tuberculin test will be shown by Professors Ward and Haring of the University of California.

All physicians interested in the subject are cordially invited to attend the meeting.

L. S. MACE,
Chairman Committee of Arrangements, Schroth Building, San Francisco.

# ORIGINAL ARTICLES

## A NEW VOCATION DERMATOSIS.

### (Dermatitis Due to Dry Fulminate of Mercury)

By HARRY E. ALDERSON, M. D., San Francisco.

Recent improvements (made by a local cap company) in the process of manufacture of blasting caps, involving the use of the *dry* fulminate of mercury, have been so successful that the method will be more generally used. In view of the fact that several of the men working with this substance have developed severe dermatitis, the following record is of interest:

E. ——, Age 28. One of his duties at a local powder works is to prepare the dry fulminate of mercury for the blasting caps. This substance is made by dissolving metallic mercury in nitric acid and precipitating with alcohol. The patient is in excellent health and has always been so. Several years ago he had dermatitis venenata due to poison oak, from which he made a rapid recovery.

He presents an acute erythemato-papular eruption of the face, neck, post-aural region and the entire surface of both forearms (the hands, having rather tough, thick skin, are spared). The eyelids are very acutely inflamed and there is a violent conjunctivitis. Wherever the skin is thin and delicate the eruption is the most severe. On the bearded portion of the face there is a pustular folliculitis. On the forearms the eruption is papulo-pustular. The attack had lasted two weeks before the patient called for treatment.

This dematitis usually appears in men doing this work a very short while after exposure to the chemical and it rapidly increases in severity. New papules may appear daily for some time after the onset of the inflammation. When warm and perspiring, the skin seems to be particularly susceptible to the irritating effects of the chemical.

Soothing treatment was effective in subduing the dermatitis in a week, but it promptly reappeared when the patient resumed his duties with the fulminate of mercury. Various salves were tried for protection, but they were only partly successful. Finally the following combination was found to be most efficacious:

℞ Sodii Carbonatis ℥i
Aquae Dest. q. s. sat. soln.
Lanolini Anhydrosi q. s. ad. ℥ii
M. Sig. Smear thoroughly over exposed parts before going in fulminate room.

Heretofore several men have been compelled to leave the service of the company on account of this dermatitis. Since using this prophylactic salve the employees handle the dry fulminate of mercury with impunity.

# CONGENITAL DEFECTS OF THE MUSCLES OF THE FACE AND EYES. INFANTILER KERNSCHWUND OF MOEBIUS. REPORT OF THREE CASES.*

By MILTON B. LENNON, M. D., San Francisco.

Since the literature of the past thirty years contains less than fifty instances of congenital oculofacial defect, it is the duty of one who has observed and studied three examples of this condition to record them.

Joseph F., two years of age, was brought to the polyclinic in July, 1908. The family history is negative. Joseph was born at full term after an easy labor. The attendant immediately noticed that the child's eyes were open and were turned inward. When he cried no movement of his face was discerned. He could not suck with his lips. He had club feet.

Examination. Joseph is an intelligent child with

Joseph F. Patient No. 1.

an immobile face and a mouth that is never completely closed. His eyes are turned sharply inward and movement in any direction is slight. When asleep his eyes are open. They react to light. The discs are normal. Hearing is excellent. The tongue is projected in the median line and may be moved in all directions. The uvula and soft palate are normal. There is a marked diastasis of the recti muscles. The child has club feet. The facial nerves and the muscles of the face show no reaction to the faradic or galvanic current. There are no other abnormal findings.

Frank H., age 14, was brought to the San Francisco Polyclinic in March, 1909. A cousin, a girl of 17 years of age, has a hypoplasia of the right arm and hand. Frank was born after a dry non-instrumental labor which lasted a week. Following his

Joseph F. Patient No. 1.

birth he had a convulsion but has had none since. It was noticed that his eyes were turned inward and they have remained so. It was further noted that when he slept his eyes were open. There was always some movement about his mouth and this

Frank H., smiling. Patient No. 2.

* Read before the California Academy of Medicine. From the Department of Neurology, San Francisco Polyclinic.

movement seems more extensive now than it was in infancy. He too was born with club feet which have been rectified by Dr. Hunkin.

Examination. A boy of fair intelligence and size, with eyes that are turned sharply inward. Movement of the eyes either upward or downward or outward is very limited. Objects are brought into his range of vision by his moving his head. He has a fairly marked naso labial fold on the right and a less marked one on the left. When told to close his eyes, there is a partial closure, the right eye being more nearly closed than the left. When told to smile or when he smiles spontaneously, he makes a peculiar and well marked grimace on the left and a somewhat different and lesser movement on the right. The tongue, uvula and soft palate are normal. Taste is unimpaired. The eyes react to light and distance. The discs are normal. There are no changes in the general reflexes or in sensation. Electrical excitation of the muscles and nerves causes a prompt reaction of those muscles which the patient voluntarily contracted while his picture was being taken. The right orbicularis oculi muscle shows a prompt, though partial, reaction to a fairly strong current. It is plain that many of its fibres are absent. There is no reaction in the left orbicularis oculi. There are no qualitative changes in the reaction of any of the muscles.

The third patient, a girl of 12 years of age, was referred to me in April, 1907. The family history is negative. Birth was easy. Following delivery it was noted that the left eye was open and covered with a film, beneath which it was discerned that the eye was turned inward. It required constant treatment for six months to remove the "film." When the child cried the left side of the face did not move, when she slept the left eye remained open. Since the child has grown older, there is an almost complete closure of the eye during sleep. The left ear was smaller, of different shape, and stuck out more than the right ear. As the child grew older the left ear grew faster than the right and now is of the same general size. When the hair grew thickly upon the head, the left hair line was considerably higher than the right.

Examination. A girl tall and intelligent for her years. When her face is in repose there is noted a turning in of the left eye, a slight atrophy of the left side of the face and an eversion of the left lower lip. The left external ear is deformed. The left hair line is higher than on the right and the left supraorbital ridge smaller than on the right. There is no drawing of the face to either side. No tendency to contracture. When told to smile the right side moves fully; the left side, except for the barest intimation of movement at the left chin is immobile. When told to close the eyes there is an incomplete closure of the left eye. It is noted that when the child is asked to look to the left the left eye cannot be brought beyond the middle line. The tongue, uvula and soft palate are normal. Taste and sensation are unimpaired. Electrical excitation of the muscles of the affected side causes a prompt reaction in the triangularis oris and a slight, qualitatively unaltered reaction of the risorious. The muscles of the right side of the face react promptly to galvanic and faradic currents.

Now let us recall the essential features of these three cases. All had defects in the muscles of the face and of the eyes at birth. In the first there was and is an immobility of the face, a sharp turning of the eyes inward, club feet and a marked diastasis of the recti muscles. The second patient has a cousin presenting an undeveloped right arm and hand. The patient himself shows some facial muscles which are completely inactive and others which are wholly or partially spared. Electrical stimulation of the nerve causes a sharp reaction of the spared muscles. His eye condition is exactly similar to that of the first patient. He had club feet.

The third patient has a unilateral condition. A film formed over the eye in intrauterine life. The eye is turned inward. The left side of the face is almost immobile and electrical stimulation shows a reaction of the risorious and the triangularis oris. The deformed ear and the high hair line are important and even more so the utter absence of contracture.

How, it may be asked, are we to account for the presence of such ocular and facial defects? A brief view of the literature on the subject may assist us in offering a probable explanation of the phenomena. When Moebius, in 1892, reviewed the subject of congenital oculo-facial muscle defects, he concluded that they were due to a "kernschwund," that is, an atrophy and disappearance of nuclei. His was an opinion and was not founded upon anatomical studies. Kuhn, in an important article which I have been unable to obtain, in the original, strongly combated the theory of a kernschwund and championed the view that a primary muscular aplasia was the cause of the condition.

In 1900, Heubner gave the first histological report of a case. His patient, a child two years of age, had from birth a stationary paralysis of the outer eye muscles, a paralysis of the face which was well marked on the right and less marked on the left side, and an atrophy of the left anterior half of the tongue. Histological examination showed a complete absence of the cells of the abducens nuclei. The facial and hypoglossal nuclei on the left side were practically absent, and on the right side the facial nucleus was represented by a diminished number of normal cells. The nerve roots were very small or absent. There was an aplasia of the left olivary body and of the left pyramidal tract. The left posterior longitudinal bundle and the left reticular substance were poorly developed. On the basis of these findings Heubner concluded that the lack of function was due to a nuclear aplasia or agenesis.

One year later, Marfan and Armond-Delille published a clinical and anatomical report of a child who died when 3½ months old. The child had shown a paralysis of the right side of the face and a deformed right ear from birth. There was complete immobility of the muscles when tested with electricity.

Autopsy revealed a deformed petrous portion of the temporal bone, an absence of the inner ear, of the acusticus and of the inner and extra osseous portion of the facial nerve. At the base of the brain the remnants of the acusticus, faciales and Pars Wrisbergii could be made out. The histological examination showed a normal arrangement and number of the cells of the facial nucleus on the left. On the right the number was diminished and those present showed chromatolysis. The author's opinion is that a primary defect existed in the bone, which led to an interference with the nerve and a secondary degeneration of the nuclei. The existence of the intracranial portion of the nerve indicated a pure peripheral lesion.

In 1903 Rainy and Fowler reported a fourth case. A child 10 weeks old had an immobile face from birth. There was no involvement of the eye muscles. The lips would not suck. The only muscles which showed any reaction were the right obicularis oculi at the inner angle of the eye and the right depressor anguli oris. There was no qualitative alteration in the reaction. Histological examination showed an absence of many of the ganglion cells of the facial nuclei and the cells which remained showed chromatolysis, irregular Nissl's bodies and atrophic cell processes. The nuclei abducentes formed a marked contrast to the atrophic cells of the nuclei faciales. The authors contend that there was a cell degeneration and not an aplasia. The presence of nerve trunks even though degenerated was proof positive of the earlier existence of the nuclei from which they sprang.

In 1907 Neurath reported a fourth case with autopsy. The child was first seen when six weeks old. From birth it had shown a right-sided facial palsy; a right logopthalmus, a smooth forehead, and a pulling of the mouth to the left. The lips did not suck, the tongue did. The soft palate was pulled to the left. Many malformations were noted clinically and at autopsy an aplasia of the right kidney, etc. The autopsy was made in the absence of Neurath and no muscle or extra cranial nerve was saved. A careful histological examination of the region of the facial nucleus failed to show any deviation from the normal picture. The root of the right facial nerve was medullated like its fellow on the opposite side and appeared perfect. The same findings might be gotten in an ordinary facial palsy, which the clinical picture strongly suggests. We cannot agree with the author that he was dealing with a primary aplasia of muscle. Yet Abromeit, and more recently Rothman, have given unquestioned assent to the author's view.

However, primary defects or absence of muscle are found. Schenke has reported a case of ophthalmoplegia in which the muscles were absent and the nerves and ganglion cells intact.

Obersteiner examined the cord of a man who had lacked from birth most of the large muscles of the right shoulder girdle and the right side of the neck and found intact anterior horn cells.

That many patients of the Moebius group belong to this class is suggested by the coincidence in the same patient of pectoral or other large muscle defect with ocular and facial defects. Ziehen recently demonstrated such a patient. Schmidt and Israel have recorded similar instances.

This brief review of the literature shows us that muscles may be deficient from birth, firstly on account of a primary muscular aplasia (agenesis), (Obersteiner, Schenke, etc.); secondly, due to an interference with the growth of the nerve (Marfan, Armond-Delille); and thirdly, due to a nuclear cause, which may be either a nuclear aplasia (agenesis), (Heubner), or a definite nuclear degeneration (Rainy and Fowler).

In our three cases we can safely exclude mechanical interference with the growth of the nerves, and therefore we need consider only whether we have to do with a primary nuclear or a primary muscular lesion. To differentiate the one from the other in our patients is difficult. Our review of the cases which have been studied histologically shows how diverse the anatomical findings may be with the clinical picture remaining much the same. Indeed if opportunity were given us to examine the central nervous system, in serial sections, in our three cases, the differentiation might still be as difficult as it is now. We know that when cells are not called upon to exercise their function they may atrophy and disappear. Edinger has reported the total atrophy of the corresponding anterior horn cells in a man who had suffered an intrauterine amputation of the forearm. Orzechowski has shown as a result of his studies of the cords of patients who had old amputations, that the corresponding cells may or may not atrophy. Hence, were we to find nuclei abducentes et faciales in our cases absent, we could not say whether we were dealing with primary nuclear or muscular defects. Were the nuclei intact a primary muscular lesion would be certain.

Since two of our patients present other defects of a mesodermic character, it would seem that in them it is more probable that the oculo-facial defects are mesodermic (muscular) rather than ectodermic (nuclear).

In the second patient the prompt reaction of the spared muscles, when the nerves are electrically stimulated, must indicate the existence of at least some of the cells of the facial nuclei. While the evidence slightly favors a primary muscular defect, the possibility of a nuclear lesion—either an agenesis or a degenerative atrophy—is so great that a positive diagnosis cannot be made.

Abromeit, with complete literature. Monat. für Psychiatrie et Neurologie. Band. XXV, 440-530.

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## REPORT OF ONE HUNDRED RADICAL MASTOID OPERATIONS. *

By CULLEN F. WELTY, San Francisco.

In the surgery and after treatment of one hundred radical mastoid operations for chronic suppuration of the middle ear, it is quite natural to have some definite opinion. In the first place, as to the advisability of the operation in selected cases; secondly, as to what may be accomplished by this radical procedure; thirdly, the danger of the operation, in jeopardizing the life of the patient.

As to the advisability of the operation, this part of the subject will be taken up by others. However, I do not mind saying that I have lost two cases following operation (which will be reported later), and that twelve cases that I have seen during this same time have died from cerebral complications, that were produced by chronic suppurative otitis media. This fact alone should almost justify one in the reckless statement that every case of

* Read at the Thirty-ninth Annual Meeting of the State Society, San Jose, 1909.

chronic suppurative otitis media that has lasted for one year should be operated.

In an analysis of operated cases reported in the California State Journal of Medicine, October, 1905, I concluded that 17½ per cent of cases with chronic suppurative otitis media, die of cerebral complication if not operated, and added that I believed that it would be much more on more thorough investigation. W. Sohier Bryant, *Laryngoscope*, March, 1908, makes a similar statement, placing the mortality for unoperated cases at 26 per cent.

I can say very enthusiastically that the radical mastoid operation has done more for suffering humanity than any single operation in the whole category of surgery, with less risk to the life of the patient. My part in this symposium is to report and analyze my operated cases:

69 males, 31 females. The youngest 3 years of age, for a cholesteatoma. The oldest, J. C. S., 75, complicated by a sinus thrombosis.[1]

9 cases were between 3 and 10 years of age.
25 cases were between 10 and 20 years of age.
28 cases were between 20 and 30 years of age.
18 cases were between 30 and 40 years of age.
10 cases were between 40 and 50 years of age.
7 cases were between 50 and 60 years of age.
2 cases were between 60 and 70 years of age.
1 case was 75 years of age.

You will note from this table that the greatest number of operated cases were between 20 and 30 years of age, and that next in frequence, was between 10 and 20. The reason for this is quite obvious, when you consider the causes of acute purulent otitis media and the contributory factors in early life that produce the same.

There is another great cause that has not been sufficiently emphasized, and that is in allowing an acute purulent otitis media to become chronic. The acute condition should not be allowed to exist longer than six or eight weeks without surgical intervention, and at that permanent impairment of hearing may have taken place.

There were eighteen cases of cerebral complication, divided as follows:

| | |
|---|---|
| Extra-dural abscess | 12 |
| Purulent meningitis | 1 |
| Serous meningitis | 2 |
| Infectious sinus thrombosis | 1 |
| Fistulae of the horizontal semi-circular canal | 1 |
| Dislodgment of the stapes through caries | 1 |

Extra-dural abscess is classed with peri-sinus abscess.

Extra-dural abscess, the most frequent of all, and for that reason the most dangerous, as they are usually the cause of more serious cerebral complications.

One case of purulent meningitis which was operated during the height of the attack, progressed rapidly to a fatal termination in about ten days.[2]

One case of serous meningitis which was operated, patient comatose for twenty-four hours prior to operation.[3]

One case of serous meningitis from a patulous oval window with bony destruction of the vastibular wall, was not recognized at operation as this particular lesion. The fistula was discovered, but was not properly interpreted. The patient some time after had a serous meningitis from an infection by this route, would not allow further operative procedure, made recovery.[4]

One case of fistula of the horizontal semi-circular canal; exact lesion diagnosed prior to operation. Continuous nystagmus for forty-eight hours prior to operation, which was much aggravated for twenty-four hours following operation. The dizziness which was present prior to operation, gradually subsided in the course of five weeks, made a complete recovery.

Concluding the cerebral complications in my series of cases, will say, that I have had a mortality of 2 per cent. One patient was comatose for twenty-four hours prior to operation, and the other patient had his fatal malady at the time he was operated. This demonstrates beyond a doubt, how serious these cases of purulent otitis media may become. They should be charged up to neglected cases rather than produce any argument whatsoever against the radical mastoid operation.

Some of the ear surgeons, during the last few years have asserted that cerebral complications were induced by operative procedures, especially meningitis. I have always maintained that this statement was not in keeping with sound surgical judgment, and that the lesions that develop following operation, are primarily dependent upon pathologic processes that have been overlooked at the time of operation, especially lesions of the semi-circular canals; secondly, faulty technic; thirdly, and very rarely, by infection. Such infection that may come in the course of any capital operation, only less so in the ear than in any other part of the body, for obvious reasons. However, when it does come, it is much more serious.

This whole subject of infection following operation has been thoroughly illustrated in numberless cases by Jansen, Neyman, Barrony and others, showing that meningitis, particularly, develops from unrecognized lesions of the semi-circular canals, especially the horizontal.

Some otologists say that cases should not be operated until cerebral manifestations have made their appearance, and in this way cut short the cerebral infection. This is fallacy, poor judgment, and not in keeping with the advanced surgical principles of to-day. The time to operate is before the cerebral conditions manifest themselves, as is clearly illustrated by the two cases that died for me. While if an operation is done during the interval, practically every case goes on to a successful termination, as will be shown in my reported cases. At the same time, some of these cases had cerebral manifestations that cleared up shortly following operation.

There were seven cases of facial paralysis prior to operation; they all recovered from their facial paralysis but one, and he died of serous meningitis.

There were no cases of facial paralysis following operation.

In one case the facial nerve was uncovered by the chisel, not in the least affected.

In five cases the facial nerve was uncovered by caries. In one of the cases the disease had existed so long that the radical operation had been practically done by a large cholesteatoma. After she had recovered, the facial nerve could be traced across the inner wall, and quite a distance below the turn before it disappeared into its bony canal. This patient had considerable annoyance from facial neuralgia for some time, and as she lived away from San Francisco, it was some time before the direct cause of this could be found. The only way to relieve her pain was to put gauze in her ear, saturated with a solution of boracic acid. My explanation of this was pressure from cicatricial tissue encroaching on the nerve.

The second case in which the facial nerve was uncovered was also from cholesteatoma and will be spoken of again in detail.

The third and fourth cases were also from cholesteatoma, and in no particular way interesting.

The fifth case was interesting in this, that I cured him of a chronic suppurative otitis media more than two years ago. He remained well for about a year and a half. The ear then began to discharge, and was allowed to continue for about one month without treatment. Was operated and nerve found uncovered for one-eighth of an inch by caries just posterior to the oval window. It hardly seems natural that this carious process was present when I treated him some two years before. At the same time it is hard to believe that this rather extensive caries at this particular place should have uncovered the nerve in so short a time. But we must conclude that such was the case for obvious reasons.

Four days after operation, wound dressed. Everything satisfactory. Three days later, Thiersch grafts applied, considerable pressure used. Three days following, a partial facial paralysis developed. I think this must have been produced by pressure from the tampon. Fourteen days after operation, the facial paralysis had entirely disappeared. This case illustrates what may be taking place in cases that may be classed in the treatment list, and only go on later to serious complications.

Cholesteatoma was by far the most frequent cause. I should say it was found in more than 50 per cent of the cases. In the majority of the cholesteatomatus cases (60 to 70 per cent) the mastoid cells were carious. In more than half of the latter cases the cells were extensively diseased. In one case, each individual cell, large and small, was filled with a cholesteatomatus mass. The only case I have ever seen, nor have I ever read of a similar case. Can offer no explanation.

I do not believe that the carious process was alone confined to the ossicles and tympanic wall in more than 15 per cent (exclusive of cholesteatoma).

*Tuberculosis of the Middle Ear.*—When I say that not a single case was recognized as such, it does not follow that some of the cases were not tubercular. I am thoroughly convinced that some of them must have been, at least secondarily infected by tubercular processes elsewhere.

I cannot do better than make a few quotations: Briegar in a recent publication on tuberculosis of the middle ear, reports his findings in 241 patients who died of tuberculosis. Of these thirty-seven showed inflammatory processes in the ear. Eighteen times the tubercular nature of the inflammation could be demonstrated. In seven cases the tuberculosis had attacked the labyrinth by fistulous communications through the oval and round windows.

Garbini and Ballestir, *Italian Archives of Otology*, volume 9, page 181, report forty cases of chronic suppuration of the middle ear accompanied by caries. The tubercular process was demonstrated in four by means of bacteriological examinations and experiments upon animals. To emphasize this, Politzer says that a case of acute purulent otitis media should not be allowed to exist more than six weeks in a case of incipient tuberculosis, as it may become tubercular. Similar reports from others.

So we must consider that some of the cases operated were tubercular, and that they are now free from discharge, which speaks for itself. Of course, it is a self-asserted fact that a tubercular process of the middle ear will not recover without surgical intervention.

I have operated cases that had known tuberculosis elsewhere. They have been cured and their physical condition has improved. Have had four cases of Betzold's mastoiditis, of which only one was interesting, from the fact that it appeared as a large abscess low down in the neck and had been reopened two or three times. When he came to see me he was about to have an operation on the neck for the removal of supposed enlarged glands.[5] The other cases were not in any way interesting.

Many otologists will tell you that they do not recommend operation, because of deafness in the operated ear, or that the hearing will be so impaired that it will be useless for practical purposes. This statement applies particularly to those who do not do operative work, but continue to treat their cases as long as possible.

In the first place, you can tell your patient almost to a certainty prior to operation how much hearing will remain after operation. Provided the case in question has a sound labyrinth (as demonstrated by the tuning-fork) and hears a whisper from one to six feet, you can promise him with almost certainty that the hearing will be improved. This improvement is entirely dependent upon the amount of cicatricial tissue that covers the labyrinth.

You must bear in mind that in chronic discharge from the middle ear (does not become chronic for one year), the ossicles are dislocated from adhesions that have taken place within the tympanic cavity, and as dislocated ossicles cease to perform their part in the conduction apparatus, they naturally only act

as mechanical hindrances to the conduction of sound waves; Jansen and others.

*Tabulation of Cases in Regard to Hearing.*—Two cases hearing before operation 3 and 4 feet respectively. After operation, whisper 26 feet each. These two cases are very remarkable because of the wonderful improvement. (Mildred Dam, Wheatland, Cal., and H. Blakemore, Lewiston, Cal.)

Twenty-one cases heard a whisper 15 feet after operation; improvement in every instance.

Eighteen cases heard a whisper 12 feet after operation; improvement in every instance.

Sixteen cases heard a whisper 8 feet after operation; improvement in every instance.

Twenty-six cases were unimproved following operation. They heard a whisper varying from contact to 6 feet. All showed shortened bone conduction.

Two cases heard a whisper 18 to 21 feet respectively; were reduced to whisper on contact, and whisper 3 feet. This case has been operated five times over a period of four years, and is now well.

One case heard a whisper 21 feet; facial paralysis. Operation imperative. Reduced to whisper 3 feet. Cholesteatoma. Five different operations in three years; now well.

Two cases heard whisper 10 to 12 feet before operation; were reduced to whisper from 3 to 6 feet.

Three deaf mutes, hearing not improved.

One case heard a whisper 3 feet, reduced to whisper on contact, as the result of an operation on the semi-circular canals. Later examination, no hearing at all.

Three cases disappeared before complete dermatization. I am confident one was made worse, as he heard a whisper twenty-five feet prior to operation.

Five cases remain under treatment.

So in summing up, the hearing was improved in 57 cases. Remained the same in 26 cases. Three deaf mutes. Six were made worse. Three cases disappeared, and five cases under treatment.

It might be interesting to quote some statistics reported by the writer.[6]

Dozent Hammerschlag of the Politzer clinic, collected all reports of operations from 1895-1897, showing by these that in the majority of cases there was no essential difference in hearing, a small percentage show improvement, and about the same number did not hear so well.

Wegener's report (1893) is about the same as Hammerschlag.

Staacke reports 100 cases, hearing improved 31 times, made worse six times, and about one-half remained unchanged.

Grunert improved hearing in 55%,—changed for worse 6%,—unchanged, 30%.

So in comparison, my results have been better than the quoted statistics. The reason for this improvement is somewhat dependent upon the use of skin grafts, and upon the fact that I treat all the surgical cases myself.

Complete dermatization as follows:

| | | |
|---|---|---|
| 3 | cases | 4 weeks |
| 3 | cases | 5 weeks |
| 10 | cases | 6 weeks |
| 17 | cases | 7 weeks |
| 14 | cases | 8 weeks |
| 10 | cases | 9 weeks |
| 9 | cases | 10 weeks |
| 8 | cases | 11 weeks |
| 5 | cases | 12 weeks |
| 2 | cases | 13 weeks |
| 1 | case | 14 weeks |
| 2 | cases | 16 weeks |
| 1 | case | 20 weeks |
| 1 | case | 24 weeks |
| 1 | case | 36 weeks |

Three disappeared.

Two cases, 4 years, five different operations, not cured.

One case, 3 years, five different operations, free from discharge for three weeks, and probably permanently cured.

Two cases, one year, and not well.

From 3% to 5% returned during the year with a discharge from the operated ear. This is due to accumulated epidermis and cerumin. When removed and the ear treated antiseptically for a few days, all signs of discharge disappeared. I have not seen one of these cases recur and require a second operation.

Twelve of these cases had been operated by other surgeons.

Six of my own cases had been operated more than once by myself.

Thirteen cases were double radical mastoids, seven of which had both ears operated the same time.

The time consumed in bringing these cases to absolute dermatization, is dependent upon various factors as follows:

1. Absolutely complete destruction of all the pathologic tissue and cancelous cells.

2. Closure of the eustachian tube.

3. Thiersch grafts at the time of operation, or following.

4. Closure of the posterior wound, which is almost universal at the present time, with the exception of complicated cerebral cases.

Under the first heading, I have had several cases, three most pronounced. In one double mastoid, the patient has been entirely well ten or fifteen times, in the course of four years. Each ear has been operated four or five times. He has been free from discharge for six months, the longest time on record, and I believe will remain so. Began to discharge again. This might be a tubercular case.

The other one that I have treated for three years, and have operated five different times, is well. His facial nerve was uncovered by a cholesteatomatus

mass, the cholesteatoma dipping down around the nerve. The last operation but one, I put Thiersch grafts down around the nerve, but they did not take. I have recently curretted the middle ear, and at present it looks more promising than at any time since I have had him. Now well for three weeks.

One case treated six months following operation, disappeared for one year; returned, re-operated, and cured in six months.

Two cases disappeared before cured, one returned in one year. Treatment for three months effected a cure. The other one never heard from (chronic alcoholic).

One case disappeared when just about dermatized. I think should be all right, do not know (chronic alcoholic).

One case allowed to return to the country and have the doctor carry out treatment. Not well. This I will never allow again.

One case disappeared immediately after the fire, almost well. This particular patient was treated by a physician for more than a year at irregular intervals, and when she returned to me, I removed the same piece of gauze that I had put in the ear about eighteen months prior. Patient recovered absolutely.

In thirty-five cases skin grafts were used. In fifteen cases the Thiersch graft was applied six or eight days following operation. Some of these did not remain, but of late I am having much more success.

In ten cases the Thiersch graft was applied immediately following operation. None of these were entirely satisfactory, probably due to faulty technic.

In ten cases one large skin graft was carried into the ear on a piece of gauze. This is the least satisfactory of the other methods in my hands.

In conclusion, I will predict that the radical mastoid operation for chronic suppuration of the middle ear, will continue to grow in popularity, because it has been demonstrated beyond a doubt, that the cerebral affections that develop following operation are dependent upon pathologic conditions that have existed prior to operation.

That by the use of skin grafts, the hearing will be improved in almost every case that has an intact labyrinth, and the after treatment will be very much reduced.

I further wish to predict that the radical mastoid operation will become so popular ten years from now, that it will be as difficult to find a case of chronic suppurative otitis media, as it is to find the large abdominal tumors of twenty years ago.

1 Reported in full, California State Journal of Medicine, February, 1908.

2 Reported in full, L. B., California State Journal of Medicine, July, 1908.

3 Reported in full, E H., California State Journal of Medicine, February, 1908.

4 Reported in full, Case 1. California State Journal of Medicine, February, 1908.

5 Reported in full, Case 2, California State Journal of Medicine, October, 1905.

6 California State Journal of Medicine, June, 1905.

## HISTORY OF A LAWSUIT FOR ALLEGED MALPRACTICE.

By HENRY J. KREUTZMANN, M. D., San Francisco.

The Council of the Medical Society of the State of California has wisely resolved to create a Medical Defense Department; at the next meeting of the Society this action by the Council has to be sanctioned by the members. Few members, possibly, realize the importance of this matter, and in order to show to what an extent upon the most flimsical pretext a medical man may be subjected to expense of money, to waste of time and energy, to worry (worst of all!), the following "history" is written. The material is divided in two chapters:

I—The medical side of the case and the case before the Superior Court.

II—A decision of the Supreme Court of California.

### CHAPTER I.

In March, 1897, Mrs. Hanna Bailey, of this city, presented herself at my office; she reported that she had lost a good deal in weight, was very nervous, was suffering for some time from pain in her abdomen, in the right ovarian region; that her menses were regular but rather free. She had been treated by a Mrs. Dr. Edson with poultices and electricity without getting better. Upon examination I found the woman thin; skin over right ovarian region covered with the typical discoloration produced by prolonged application of poultices; there was found by bimanual examination a mass in the pelvis, taking up mostly the right side. Owing to the great nervousness of the patient and her utter inability to relax, I could make out neither origin nor relation of the condition present and I therefore suggested examination under chloroform. This was accepted and the next morning at her residence on Fell street, chloroform was given by the late Dr. Wm. Friedhofer. When she was fully relaxed I made a careful, thorough examination, bimanually, vaginal and per rectum, and I arrived at the diagnosis: cystic tumor of the right ovary, probably of inflammatory origin. Having finished my examination I asked Dr. Friedhofer to examine her without giving him my diagnosis; he pronounced the case a cystic tumor of the ovary. I saw the patient the next day again; I explained everything to her and everything was talked over: absence of any danger of an operation of this kind; the necessity of removal of the ovary, finding the usual difficulty to explain that the tumor is the ovary and that the removal of the tumor meant loss of the ovary; certainty to keep one ovary and womb with continuation of her sexual faculties.

Patient was satisfied to have operation performed, but stated that she did not have at present the necessary money and would see me when she had the money. In September of the same year she came to my office announcing that she now had the money and accordingly she entered the French Hospital.

The time for operation was set over the phone with the then resident physician, Dr. Putnam. In the afternoon of the day before operation I went to

the hospital and examined Mrs. Bailey again; this examination was made not for the purpose of differential diagnosis, it was done in order to reassure myself of the presence of the tumor, having in mind my opinion of an inflammatory origin. At this examination everything appeared as at the examination under chloroform with the exception of an enlargement of the mass. When next day the abdominal incision was made I found no cystic tumor of the right ovary, but a uniformly enlarged uterus, the size of a three to four month pregnant uterus, of a doughy consistency, looking just like a uterus changed through pregnancy, with large blood vessels on the sides; nowhere any protuberances or nodules in the wall. I could not get rid of the reasonable doubt that this was not a pregnant uterus; the assisting gentlemen were singly asked by me, "Can you positively tell me that this is not a pregnant uterus?" Dr. Putnam, Dr. Allen and Dr. Bell (who was looking on) all answered that they could not positively say that this was not a pregnant uterus. I did not feel justified to remove the uterus for two reasons: first, because I was not sure that this was not a pregnant uterus; and secondly, because I felt bound by the agreement not to remove the uterus, as made to the patient. The ovaries were found enlarged with cystic degeneration of Graafian follicles, some of which were opened and excised. The abdomen was closed. The recovery uninterrupted. I have had no further occasion to examine the woman, but Dr. Carl von Hoffmann gave evidence at the trial that he had examined her about one-half year after operation; her menses were then normal, not free any more; the mass was of the size of an orange; diagnosis, fibromyomatous uterus.

It is not possible to decide with absolute certainty what this somewhat puzzling case has really been, since neither at the time of examination under chloroform nor at the time of operation a pathologic examination of the condition has been made. There are two things possible in my opinion: I and Dr. Friedhofer may have both made an erroneous diagnosis; the mass in the pelvis may have been a fibromyomatous uterus. But there is also a possibility that our diagnosis was correct, that besides there existed a small fibromyoma in the uterus; that pregnancy occurred—pregnancy of very short duration, but its stimulus upon the fibromyoma was sufficient to enlarge it rapidly and considerably, as is regularly seen in pregnancy in the fibromyomatous uterus; the inflammatory cyst of the ovary may have been crowded in the pelvis to rupture. Such cysts of smaller size are of frequent occurrence and often disappear; burst under our examining finger; larger cysts are rarer but I have seen inflammatory cysts of the ovary of considerable size, which ruptured and disappeared. This, my opinion, is somewhat supported by the findings of Dr. C. von Hoffmann one-half year after operation, when the uterus had gone back in size.

May this have been one way or the other: No fair person can say that I did not employ ordinary care and skill! If anything was wrong with me, it is too great care in handling this case. I have learned from this experience! I have never since tied myself to any absolute diagnosis or any definite operation. I tell the people now that there is a condition present, may be a fibroid of the uterus, may be a cystic ovary, which necessitates an operation in my opinion; it has to be left entirely to my judgment, what I am going to do at the time of operation.

Furthermore, I have met in my own practice and have assisted occasionally a few rare cases of enlargement of the uterus, diagnosed as fibromyoma, where there was thrown a doubt in our minds during operation whether this was not a pregnant uterus. My advice is: cut out in such a case the uterus in toto; pronounce it a fibromyoma; take it home and in the seclusion of your home, cut it open and convince yourself of what it is; this is a safe procedure and avoids trouble!

The result of my interference did not produce any damage to the patient, on the contrary as stated at the time of trial an improvement of the condition was noted. But she fell in the hands of the Philistines, that is, of a lawyer, who probably thought to "pick up some easy money." His name was J. J. Burt. Suit was brought on the ground that there was always a fibroid of the uterus present and no ovarian cyst, at the time of the first examination and at the time of operation; this allegation was based on the testimony of Mrs. Dr. Edson; it was said that a physician employing ordinary care and skill of his profession should have discovered that there was a fibroid of the uterus present and that a physician who did not discover this fibroid of the uterus did not employ ordinary care and skill of his profession; this was the kind, sworn statement of Mrs. Dr. Edson. Damages were claimed for "mental worry and anguish before an operation, and for pain and suffering after operation, the patient being sick and sore in bed for three weeks." This claim was made conjointly by Mrs. Bailey and her husband, balm in the modest sum of $40,000 was asked from the defendant. In the summer of 1899 this suit was acted upon before Judge John Hunt. It took a whole week; the result was a disagreement of the jury, 8 being in favor of the defendant, 4 kind jurors were inclined "to give the poor woman a few dollars" (statement made to me after the trial by jurors). During this trial some remarkable testimony was introduced by the plaintiff's lawyer; a woman, a Mrs. Harris, was allowed to go on the stand, against the objection of the defense, which objection was overruled by Judge Hunt. This woman had years ago been operated upon for double pyosalpynx; both pus-tubes ruptured during operation. As was the custom at that time silk had been used to tie off the organs and drainage had been resorted to through lower angle of wound. Result,—a fistula which discharged for several months, until the last infected silk ligature had come away, and a ventral hernia. I did only what everybody else was doing at that time and all had similar experiences galore. But she was allowed to tell her tale of woe to the jurors,

that she had "a running sore for months after such an operation and that she was ruptured for life"! This testimony was admitted under a manifestly and apparently erroneous ruling of the court, since at no time of the trial was any claim made by the plaintiff that the operation had not been performed properly, that the wound had not healed and that she experienced any after effects. But her narrative made an impression upon the jurors, as some of them told me afterwards, and due to this manifestly erroneous ruling of the judge, the case was not settled then and there. The second trial, a few weeks later, consumed another week and ended after very short deliberation of the jury, in an unanimous verdict for the defense.

Motion was made by plaintiff for appeal to the Supreme Court, based on the statement that "the evidence did not justify the verdict," besides a number of alleged errors of ruling of the presiding judge were added. After the usual delay, a decision was handed down by the Supreme Court of California January 5, 1904, reversing the judgment of the lower court. This decision of the Supreme Court will serve as text for Chapter II. And here the matter stands!

The lawyer, J. J. Burt, the instigator who sought to make a few dollars on a contingency fee, is dead; Dr. Wm. Friedhofer is dead; Judge John Garber, counsel for defendant, is dead; Mrs. Dr. Edson is dead.

It will not be uninteresting for my confreres to know what such a lawsuit may cost. I had engaged Dr. Gutsch as counsel, who acted very successfully and judiciously in several threatened suits against the German Hospital; upon the urgent advice of medical friends, who were concerned very much about this lawsuit for the medical profession at large, I engaged the late Judge Garber as consulting counsel. I had kept an accurate account of every cent that I had to pay in this matter, but "the fire" has destroyed these records and I have to give a summary from memory as best I can:

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| Fee for the consulting lawyer | $1250.00 |
| Fee for the acting lawyer | 1400.00 |
| Fee for subsequent lawyer, Mr. Peixotto, whom I engaged in lieu of Dr. Gutsch | 250.00 |
| Expenses coincident with the taking of the deposition of Mrs. Dr. Edson in Sonora | 150.00 |
| Transcript of testimony | 350.00 |
| Fees to jurors and court stenographer | 204.00 |
| Printing of briefs | 60.00 |
| Printing of transcript of testimony for Supreme Court | 360.00 |
| Incidentals | 40.00 |
| | $4064.00 |

Some remarkable practices became apparent to me during these trials! Both sides have to deposit daily $24.00 for jurors and $10.00 for the court stenographer; the winning party's money is retained, he receives a golden brick in the shape of a judgment against the other side; the loser receives his deposit back. This is a direct invitation to unwarranted suits for damages; the one who does not possess tangible property, will not lose anything by instituting a suit; if he wins he is sure to get his money back, because no lawyer will sue any person or corporation who has no "tangible property." If, on the contrary, the plaintiff loses, well then he gets his deposit back and the other side can just as well throw that judgment in the wastebasket.

Another questionable practice I found in the making of transcript of testimony. Lawyers must have that for the pleading of the case; the one who is sued and who is supposed to have the money has to pay pretty stiff prices for the transcript; then the other side gets "a copy" of the same transcript for a trifle! Hardly fair such a traffic!

It was astonishing what an amount of fabricated and "peculiar" testimony was given by Mrs. Bailey, her husband, and her mother, a Mrs. Thonagel, under the guidance of plaintiff's counsel.

The medical expert testimony is deserving of some consideration, too. The star witness for plaintiff was Mrs. Dr. Edson; graduated from Keokuk after a two years' course, she had drifted over half a dozen different places, where she always remained a short time only, to San Francisco. Here, with her husband, she hung out signs: "Diseases of Women; Nervous Diseases; Eye, Ear, Nose, and Throat; Diseases of the Rectum; Electricity." This faker had never performed any operation; she gave it as her opinion that she did not believe in operations for diseases of women and this quack is earnestly considered an "expert" in gynecology by a Superior Court of San Francisco, California, and by the Supreme Court of California.

It was rather a sad sight to see Dr. Carl von Hoffmann, Professor of Obstetrics and Gynecology of the University of California, join hands with this despicable crowd in an effort to humiliate a colleague and deprive a fellow practitioner of his good name and of some of his money. Judge Garber said of Dr. von Hoffmann, "He was willing to examine this woman in order to go on the witness stand and testify against you; his evidence is the strongest in." If a lawyer comes to a physician and asks him to examine a person for the purpose of furnishing evidence in a suit against a confrere, I think it is the professional duty of any medical gentleman to show the door to the lawyer. Dr. von Hoffmann testified himself that he had seen Mrs. Bailey when "asked" by her lawyer; worse than this, Dr. von Huffmann gave theoretical evidence, detrimental to the defense. He could not testify as to the facts of the case at the time of examination under chloroform, or at the time of operation for the reason that he had not seen plaintiff then. He was asked by plaintiff's counsel: "Suppose the condition of plaintiff at the time of examination under chloroform and at the time of operation was such as at your examination, was it difficult to find that this was a fibroid of the uterus and not a cyst of the ovary?" Now when Dr. von Hoffmann made his examination he knew from the history of the case that ovarian cyst as well as pregnancy were excluded and yet Dr. von Hoffmann

said it would not have been difficult! In my opinion an ethical physician should have called attention to these conditions and declined to answer. But worst of all, Dr. von Hoffmann must have had interviews with plaintiff's counsel, discussed the theoretical question and shown his willingness to answer in a way that was satisfactory to the prosecution,—otherwise the plaintiff's counsel would never have dreamed of putting Dr. von Hoffmann on the witness stand and asking him theoretical questions.

In marked contrast to the conduct of Dr. von Hoffmann was the kind assistance given defendant by a number of medical men of this city,—Dr. Paolo de Vecchi, Dr. W. S. Thorne, Dr. W. F. McNutt, the late Dr. Levi Lane, Dr. Thomas W. Huntington, Dr. Kenyon, all of whom devoted hours of their valuable time, partly on the witness stand, partly waiting to be called on the stand. It is with the feeling of deep gratitude that I am writing this down. Besides their strong attitude in this case toward the defense, it was a matter of great satisfaction to receive numerous letters from colleagues of different denominations praising my determined stand against such a nefarious attempt of extortion; this unsuccessful attempt spoiled a number of attempted or contemplated suits; besides it had the effect that physicians refused to be victimized by submitting to a compromise;—the worst that any physician can do when threatened with a suit.

## TUBERCULOSIS, AND THE MODES OF INFECTION.*

By C. C. WALKER, A. B., M. D., D. V. S., Washington, D. C.

There is no intention on my part, to present any new or original ideas in regard to the modes of infection in tuberculosis. For the most part, I shall review some of the recent work of the Bureau of Animal Industry. It will be impossible, in a paper of this kind, to discuss fully all the points coming within the scope of this subject.

Before going into the subject proper, it may be well to refer to the facilities provided by the Bureau for obtaining information at first hand. In Washington, D. C., we have large and fully equipped modern laboratories. These laboratories are in charge of Dr. Mohler, who work is doubtless familiar to most of you. With him are associated several trained laboratory workers. Just outside the city limits, at Bethesda, Md., is the experiment station, with Dr. Schroeder in charge. As I have worked under Dr. Schroeder I have personal knowledge of the valuable work he is doing as an investigator.

The experiment station consists of about 160 acres of land, a modern laboratory, and various buildings and yards, in which are kept nerly all kinds of domesticated, and some wild animals. Everything is so arranged, that careful study may be made of the many diseases of animals.

In addition to our facilities in Washington, we work in connection with several of the State Agricultural colleges and universities, and we have several special experiment stations outside of Washington. We also have a large force engaged in meat inspection. Our inspectors make careful reports upon all diseased animals slaughtered under Government supervision. These reports show the nature and extent of the lesions, as well as the character of the disease. In connection with our laboratory and experimental work, the autopsy report is of prime importance. In this way, we are able to secure data, in such quantities that we may form some very definite conclusions regarding the variations in pathological phenomena in many diseases, and especially in tuberculosis. I will say that our records show that as a disease tuberculosis holds first place among dairy cattle, beef cattle and hogs.

It is very important that we should not underrate, nor entirely overlook some of the dangerous sources of infection in tuberculosis. A thorough understanding of all the sources of infection is necessary, in order that boards of health and municipalities may draw up regulations and ordinances, which will be the most useful in protecting the public health, and at the same time not work undue hardship upon the human sufferers of the disease, as well as upon the owners of infected herds.

The generally accepted modes of infection in tuberculosis, are: By inoculation; by ingestion and by inhalation.

With reference to infection by inoculation we need not say very much, except to state that it is a known fact that butchers and others, are often infected locally, when the tuberculous material from beef or pork gains entrance to accidental wounds. This is one of the strong proofs that man is susceptible to bovine tuberculosis. We have direct and positive knowledge of such infection through our meat inspection force. Even some of the inspectors have contracted the disease in this manner.

The next two modes of infection, are ingestion and inhalation. I shall consider these together for obvious reasons. Many of us have had it drilled into us, that we generally contract tuberculosis by breathing in dust laden with tubercle bacilli. Hence, regulations and ordinances may be made with the idea that this is the most common mode of infection. Now let us apply known physical laws, common sense and demonstrated facts in considering this question.

To reach the lungs, the air has to pass through tortuous tubes, viz: nose, pharynx, larynx, trachea and bronchi. There are many twists and turns in the air passages before the air cells are finally reached. If tubercle bacilli, which are heavier than air, are suspended by currents, pass with the air into the respiratory tract they are sure, by known physical laws, to strike the side of the tube at the first turn. As the sides of the tube are moist, the tubercle bacilli are bound to be arrested at the first, and certainly at the second turn. This principle is the same the farmer has utilized from time immemorial in separating the wheat from the chaff by the aid of the wind. The heavier wheat falls nearer a straight line, while the lighter chaff is carried further away.

* Read at the Seventh Semi-Annual Meeting of the Central California Health Officers' Association, Hanford, October, 1909.

The air after it passes the larynx, is mostly distributed to the various parts of the lung by diffusion. As another obstruction to the passage of solid foreign particles into the farthermost recesses of the lung, where the lesion of tuberculosis generally begins, our microscope shows us that the trachea and bronchi are lined throughout with ciliated columnar epithelium. These cilia are attached to the distal or free ends of the cells, which during life, are in constant motion, waving like a field of grain. The direction of this motion is always from within outward. These cilia protect the delicate lung tissue by seizing and carrying outward everything heavier than air at any rate, and thus they perform their special function.

There is also another point to be considered, and that is, whether or not dried tubercle bacilli, or bacilli floating about in the air, are capable of producing lesions. We have demonstrated, by extensive experiments, that virulent tuberculous material, spread in thin layer and exposed to the sun's rays, is entirely innocuous after less than one hour's exposure.** Again, sputum, when it dries, if it breaks up at all, forms coarse flakes too large to float about in the air to any extent.

Schroeder says: "I do not believe that any one can read the works published by Desoubry and Porcher, Baumgarten, Nicholas and Descos, Ravenel, Dobroklouski, Rabinsowitsch, Vallee, Von Behring, Calumette and Guerin, Schlossman and Engle, Vansteenbarghe Geysez, Petit, The U. S. Bureau of Animal Industry, The British Royal Commission on Tuberculosis, and others too numerous to mention, without coming to the conclusion that tubercle bacilli easily pass through the intestinal mucosa, from there into the lymph stream, and from it to the circulation, to be filtered out by the lung, where they most commonly cause disease."

Calumette and his associates claim that the common mode of infection in pulmonary tuberculosis, is by way of the intestine. We have not only these reasons to doubt that the common mode of infection in tuberculosis is by inhalation, but we have the lesion in the lung, which spreads in a manner to lead us to believe that the starting point is in the capillaries, or at least on the capillary side of the air cell.

Aufrecht says: "The fact is, that the initial changes in the apices in the lung, as I have convinced myself by repeated anatomical examinations, do not spread from the terminal branches of the bronchi"; and he further says, "I have proved the cheesy tubercle in the lung to be associated, not with the final branches of the air tubes, but with the terminal capillaries of the pulmonary arteries."

Kohler in reviewing Aufrecht's work, says: "It deserves wide recognition, as it supplies important arguments for a thorough revision of the older views about the development of pulmonary tuberculosis."

Cardiac declares that dust ground from tuberculous sputum is harmless to both digestive and respiratory tracts. Some of our brothers may point to the statistics, which show that marble and stone cutters form the largest class affected with tuberculosis, and may account for this by the fact that this class is constantly breathing in the dust created by the industry of the workers. No sane person would expect to find live tubercle bacilli in marble or stone dust.

As a matter of fact, the status of this class greatly helps to bear out our contention, that the most common mode of infection in tuberculosis is by ingestion. The microscope shows us that marble and stone dust is made up of sharp-edged triangular solids. These, when taken into the nose and throat, pass along into the intestines, there causing minute wounds in the delicate mucosa. Thus, the passage of all kinds of bacteria to the tissues beyond is made more easy.

In order to show that we have some grounds for the idea we have with reference to the common mode of infection in tuberculosis, I want to refer to a special experiment made by Dr. Schroeder at the station. One calf and three hogs were injected with virulent tubercle bacilli. The point selected for injection was as near as possible to the end of the tail in each case. These animals, previous to the experiment, were tested with tuberculin and found to be free from the disease. All precautions were taken to exclude infection from food, water and surroundings.

As the lung is the organ most commonly affected in tuberculosis, it seemed desirable to study the path of infection which in these cases was inserted in that part of the body farthest removed from the lung. In this paper, I can only give some of the main results, and refer you to Bulletin 93, B. A. I. Calf 461, died about two months after injection with generalized tuberculosis. Autopsy report of lung is as follows: "The entire lung has a firm, solid character and does not collapse at all. The lower halves of the cephalic and median lobes, the entire azygos lobe, and large patches in the principal lobes are of a dark red hemorrhagic appearance. The whole lung, on surface and on section, is densely and evenly sprinkled with minute yellow areas about one-thirtieth of an inch in diameter, which are made up of aggregations of very minute necrotic points. All the surface lesions are beneath the capsule, and the number of lesions is so great, that more lung is involved than is left unaffected. Microscopic examinations of the little yellow areas show innumerable tubercle bacilli."

There, of course, were lesions in some of the glands which are described in the full report, but which I omit here. The death of this animal was probably due to suffocation, caused by extensive lung disease. Hog 1383; autopsy report of lung: "The lung is adherent to the chest wall and diaphragm, and the various lobes to each other. Sprinkled

** See paper by Dr. E. C. Schroeder, Supt. of Bureau Experiment Station, entitled, "Milk and Its Products as Carriers of Tuberculosis Infection," read at a meeting of the N. Y. Milk Committee, New York, N. Y., April 11, 1908. Dr. Schroeder's paper is printed in the 24th Annual Report of the Bureau of Animal Industry, pp. 183 to 199. He gives a full list of references to literature.

evenly over, and throughout its entire substance, are innumerable tuberculous masses from 1 m.m. to 1 c.m. in diameter: fully one-half of the lung tissue is destroyed. The pulmonary and costal pleuræ, and the thoracic surface of the diaphragm are thickly studded with innumerable tubercles from 1 m.m. to 1 c.m. in diameter.

The lungs of the other two hogs were somewhat similarly tuberculous.

When we remember the point of injection, near the end of the tail in all these cases, we are justified in concluding that there are only two courses for these bacilli to reach the lungs:

First:—That they were taken up by the capillary blood vessels and carried to the lung directly with the venous blood stream.

Second:—That they were taken up by the lymph radicles, passed along the lymph channels, by or through the lymph glands, entered the great thoracic duct and through it were poured into the venous circulation.

The first real check to their easy passage in either case, would be the fine capillary network around the air vesicles in the lung, where the extensive lesions were found.

Schlossman and St. Engle found extensive disease of the lungs in guinea pigs upon which laparotomy was specially performed, and the emulsion of tubercle bacilli placed in their stomachs, thus excluding direct infection through the air passages to the lungs.

Notwithstanding all this, we believe that a large proportion of human tuberculosis is traceable to infection from tuberculous sputum. If very great care is not taken, particles of moist and virulent sputum can gain entrance to the bodies of persons associated with one suffering from the disease. Therefore, we should enforce regulations forbidding spitting on the sidewalks, floors of public houses, etc. We should teach sanitation, cleanliness in and about the house, as well as personal cleanliness. This should be the duty of the physician, the parents and teachers in the public schools.

If we are to accept the facts proved, and the inferences drawn, by these scientific men, concerning the most common mode of infection in tuberculosis, we must consider the dangers from our food products.

I may say, that our experiments, as well as the experiments of others, show that as a general rule, the bovine tubercle bacilli are a more virulent type, and cause more rapid and extensive disease in all animals including man's prototype, than do tubercle bacilli of human origin. Why we should think of excluding man, and call him immune to the more virulent bovine bacillus, is a question that puzzles me.

Our studies show that, while there are two more or less definite types of tubercle bacilli, the human and the bovine, they are closely connected by transition forms. We have repeatedly produced tuberculosis in bovine animals, by injecting bacilli of human origin. We could not reverse this experiment with malice aforethought for very good reasons. We do not doubt, however, that much of the human tuberculosis, especially that in children, is directly caused by the bacillus of bovine origin.

The food products most liable to contain tubercle bacilli are meat and meat products, milk and milk products. There is, of course, more danger from milk and its products, as they are generally consumed in the raw state. At the same time, there is danger in meat of tuberculous animals. There is more tuberculosis in beef cattle than is generally supposed. I have seen many and advanced lesions in the finest looking and the fattest steers to be found in the country. In one lot of 55 fat steers (so-called baby beef), I have found lesions of tuberculosis in 35. These steers weighed from 1700 to 1900 lbs. on the foot, and at that time the packers paid $7.15 per 100 pounds.

The dairy cow when used for food, is more apt to show lesions of tuberculosis than other cattle. This is in part due to their greater age ad longer exposure to infection. In testing dairy herds the average per cent affected with tuberculosis of all herds tested by the Bureau is about 17.

The percentage of tuberculosis in all hogs slaughtered under Federal inspection in 1907 was 1.43. In certain localities, especially when hogs run in the same field with cattle, the percentage was much higher. I have known of small lots of hogs coming from certain localities to show as high as 60 per cent affected with tuberculosis.

The tuberculous cow, not being constituted like man, does not spit, but coughs up and swallows her sputum, and the bacilli pass out with the feces. We have demonstrated the presence of tubercle bacilli in the feces of tuberculous cows by microscopical examination, and have produced the disease in guinea pigs by subcutaneous injection of cow feces. We have also demonstrated that hogs following tuberculous cattle contract the disease. We have on the experiment station, one stable full of tuberculous cattle, and by the side of this stable is a large yard for hogs, into which the feces from the cattle are thrown. All hogs, before being placed in this yard, were tested with tuberculin, and found free from tuberculosis. A number, however, were born in this yard, and were continued in the experiment. All sources of infection, except through the feces, were excluded during the experiment. Of those that have died or have been killed, all show lesions of tuberculosis at autopsy.

The hog also has a great chance to become infected through ingestion of milk contaminated with tubercle bacilli. In some cases hogs are allowed to eat the refuse of slaughter houses and to consume carcasses of other animals dead of tuberculosis, and thus contract the disease. Hogs may contract tuberculosis from persons suffering from the disease, if, by any chance, they may consume their fresh sputum or feces.

The reports from various parts of the United States show that hogs are rarely affected with tuberculosis when they have no chance to follow cattle, or

to consume dairy products. We conclude from this that, if the disease is eliminated from cattle it will also disappear from hogs.

The frequency with which milk is contaminated with tubercle bacilli has been ably discussed by many, so I need not go into details. As we have shown that tubercle bacilli leave the tuberculous cow with the feces, it is certain that they will be found in the milk, if there is a small or great amount of feces in the milk. We have found that in nearly all milk tested, feces were present as shown by the test tube, after being placed in a centrifuge. Therefore, if there is one cow in a herd tuberculous, or one tuberculous herd supplying milk to a common creamery, the whole lot of milk in either case most certainly will contain tubercle bacilli.

We have positive knowledge that in butter, salted in the ordinary manner, and which was made from milk of a tuberculous cow, the tubercle bacilli will live and be capable of producing fatal disease up to 153 days. I performed the autopsy on a guinea pig which was injected with infected butter kept for 133 days, and found that death was due to generalized tuberculosis. The lungs, liver and spleen of this guinea pig I prepared and mounted in clear gelatin in a watch glass. This specimen was exhibited among others at the International Congress held at Washington.

When we consider the conditions in a country where there is a community creamery, in which butter is made in large quantities, the milk in some cases coming from tuberculous herds, the skim milk being returned to the farms and fed to hogs, we must conclude that compulsory inspection and testing of all dairy herds is an absolute necessity to preserve the public health. The Bureau made a collection of samples from 15 creameries in widely separated regions, and found that 5 or 33 1-3 per cent harbored virulent tubercle bacilli.

I believe, if we have compulsory inspection and testing of dairy cattle, some provision should be made whereby the owners of condemned animals may be paid for same. At the same time, no dairyman can afford, from a business standpoint, to harbor tuberculosis in his herd, the loss in production of milk and of condition in the cows, other cattle, and hogs would fully offset the value of a few condemned animals.

We have in the tuberculin test, when properly used, a means of determining whether or not animals are affected with tuberculosis in at least 97 per cent of the cases, which is an almost perfect test.

The elimination of tuberculosis from our food and milk producing animals, must be taken up if we are ever to eliminate, or greatly lessen the disease in man. Already in this western country, Colorado, Utah and Arizona are organizing forces to eradicate tuberculosis in cattle.

Some of the conclusions we may draw are:

First:—That the most common mode of infection in tuberculosis, is through the digestive tract.

Second:—That bovine tuberculosis is capable of being transmitted to man.

Third:—That as a disease, tuberculosis holds first place in dairy cattle, beef cattle and hogs.

Fourth:—That the tuberculous cow eliminates the bacilli mostly with the feces.

Fifth:—That hogs, as a rule, contract the disease from tuberculous cattle, by working over their feces or from their milk.

Sixth:—That the milk of any herd where there is one or more tuberculous cows, generally contains virulent bacilli.

Seventh:—That butter as a medium, will preserve the virulence and vitality of the bacilli for at least 153 days.

Eighth:—That to eradicate or greatly lessen tuberculosis in man, we must weed out tuberculous cows from dairy herds and animals used for human food.

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## SELECTED CHAPTERS FROM THE STUDY OF SPEECH DISTURBANCES.

### 1. *The Treatment of the Stutterer.*

By HENRY HORN, M. D., San Francisco.

A glance at any of the weekly papers or the morning dailies will convince one that the public has not yet given up hope of finding a patent cure for stuttering. If one for a moment considers what the advertisements must cost the inventors of these wonderful cures, it will be seen that the number of people who are suffering from speech disturbances must be very large. Unfortunately I have had as yet no opportunity of looking into the statistical side of the matter here in America, and as the public school system of California takes no cognizance of these troubles, as far as special education is concerned, I am in no position to say how many of these unfortunate sufferers are to be found in our own state.

The legal position that these advertising fakers have, is, fortunately for them, a very secure one. Although they lay claim to a positive cure for stuttering, if their instruments or methods are used properly, it is practically impossible in court of law to prove that the inventors themselves, being untrained and laying no claim to a medical education, are not convinced of the efficacy of their own methods. They are at liberty to recommend anything that the lay public is foolish enough to adopt.

The most dangerous class of all are those who use suggestive therapeutics of any kind. I think no one will attempt to deny the dangers of hypnotism in the hands of unprincipled persons no matter what manner of disease they propose to treat. It is certainly a reflection on our profession that we allow such advertisements to appear day after day, and never by a word educate the public to their dangers.

In the following paragraphs I will briefly review the modern methods for treating this class of speech disturbances.

1. *Psycho-Therapy.* That the psychical condition of the patient, in the treatment of the stutterer, is of the most vital importance no one will attempt

to deny. This fact was recognized as early as 1830, when Schulthess, the father of the modern treatment of speech disturbances, in his epoch-making work, "Ueber das Stottern und Stammeln," showed that the hypnotic treatment which had been in use since the time of Mesmer was in the vast majority of cases of absolutely no value. The treatment was recently revived by Gutzmann of Berlin, who also saw that even in the light of modern methods hypnotism was to be discarded. The only cases in which it is at all indicated is where the ordinary methods have been used and found of no avail. Space does not allow a close analysis of all the disadvantages of the hypnotic treatment, but even Forel, who in the beginning was so enthusiastic, has recently conceded that no dependence could be placed in any sort of suggestive treatment to the exclusion of other methods.

If the anxiety before speaking were the only element in the case, suggestion therapy would unquestionably be indicated. The argument is often advanced, that when the stutterer is not excited or is amongst his friends, he stutters very little or not at all and that the straining before speaking is entirely absent. These premises are true, but the fault in the argument lies in the fact that the modern methods of studying the breathing of the stutterer have taught us that stuttering, in the narrow sense, and the straining and halting before speaking (the "Anstossen" of the Germans), are not all the same and have different causal elements. One sees stutterers who never strain before speaking and others who do not stutter in the ordinary sense but only strain. There are others again whose trouble is only indicated by accessory movements of the facial muscles or a twitching of the extremities.

The accompanying psychical manifestations of the stutterer disappear spontaneously with the use of a rational method of treatment, and this is only to be expected when we consider that these symptoms are secondary to the disease itself. In fact they are seldom seen in very young children, but begin to appear when the child first attends school and comes in contact with the normally speaking child who jeers at him and causes him to feel ashamed of his condition. This leads naturally to an anxiety in speaking, and later to the conviction that he can not speak at all. The easiest method of overcoming these psychical manifestations is the proper use of a rational exercise method which brings the child quickly to a realization that he can speak and thus these manifestations quickly take care of themselves.

2. *The Dietetic Therapy.* In 1584, Hieronymus Mercurialis, a very shrewd observer of children's diseases, made the statement that stuttering children are often troubled with constipation; a statement which nearly every observer has since been able to verify. As Gutzmann has shown, this may have two causes, it may be of a purely nervous nature or the children have been overfed on meat, eggs, etc., a type that the Germans recognize as "Fleischkinder." If in such a case, the diet is changed and the constipation is corrected, a complete cure of the stuttering may be accomplished without any other treatment. Lichtenstein, Henoch and others have also shown that various kinds of intestinal irritation may be a potent cause of stuttering and that when corrected the trouble disappears. This is especially true of the presence of worms and this point must never be neglected when one has a case under consideration. A very mild diet, with a minimum of meat, a maximum of vegetables and milk, and proper exercise is the first consideration in all cases.

3. *Gymnastics, Watercure, Climate Cure, Etc.* General gymnastic exercises are of the greatest use in the treatment of these cases; the child becomes conscious of a general well being, is certain of himself, and the entire body is strengthened and coordination is better. Systematic work out of doors, such as garden work, walking exercise, etc., should never be neglected.

A general hydrotherapeutic treatment of itself has little value. Only when the treatment with the systematic exercises fails and the patient is very nervous and run down, is a course at one of the well-known springs to be recommended, the regular treatment to be carried on later. The laity have often recommended cold douches as a cure for stuttering. It is mentioned only to be condemned.

That children often improve greatly as a result of a change of scene and climate is well known. This is, however, usually the case with city children who are sent to the country. Just what element the climatic change plays in the result is hard to determine, the change of environment being perhaps the principal factor.

4. *Medical Treatment.* Adult stutterers are the only class of patients in which medicines are at all indicated. In highly nervous and hysterical persons, where through years of suffering the sleep has been disturbed and the nervous system has been affected, it is sometimes well to use small doses of the bromides, the newer preparations such as Bromopin, Bromurol, etc., working particularly well.

5. *Surgical Treatment.* Concerning the surgical treatment of stuttering there is very little to say. The famous French surgeon, Diffenbach, in 1841 startled the surgical world by stating that stuttering could be absolutely cured by excising a large wedge-shaped piece from the tongue. The cases were cured, but only as long as the tongue was swollen and sore, in fact the patient could not talk at all. Before Diffenbach saw the error of his ways several patients were lost through hemorrhage, and finally he himself acknowledged the futility of the operation.

A side of the subject that is, however, of the greatest importance, is the surgical treatment of adenoids and enlarged tonsils. Here they act not only as a mechanical hindrance to proper articulation, but their removal exercises a very favorable influence on the general health of the child. The treatment of all irritating nasal conditions should

not be neglected. The influence of a septam deviation, a spine or a spur on the neuropathic stutterer can hardly be estimated. Gutzmann has shown that even an acute coryza coming on during the treatment of a stutter can cause a relapse and the application of cocain can immediately cure the same. This illustrates how important nasal conditions are in this trouble.

7. *The Treatment by Exercises.* We now come to that part of the subject which is of the most interest, for here we begin to see how the stutterer is to-day treated in all parts of Germany. The debt of gratitude which the world of stutterers owes to the older Gutzmann and his brilliant son can never be repaid. The following method is the one used in the great ambulatorium for Speech Disturbances of which Gutzmann is the chief. Here, from all parts of Germany, come thousands afflicted with every variety of speech defects, here come students from every corner of the world to study the methods. There are no secrets in the treatment, every one is received with the greatest courtesy and one sees at its best the true greatness of the German clinic.

It is only possible in an article of this length to discuss general principles. The exercises are not published in English, but a very slight acquaintance with the German language would enable one to understand the matter as set down in Albert Gutzmann's little "Uebungsbuch."

The basal principle of the whole treatment is extremely simple and is as follows: *The creation of a normal method of speaking, through an imitation of the way in which speech is normally produced.*

It has been repeatedly demonstrated by Gutzmann, by means of graphic methods, that practically all stutterers have disturbances in the breathing mechanism. During speaking they breathe too rapidly, in fact more rapidly than in the quiescent state, a condition just opposite to what should take place. In other cases the inspired air is wasted during the speaking and the patient tries to speak when the lungs are almost entirely empty of air. Aside from these abnormal methods of breathing, which are not necessarily of a spasmodic nature, we find very commonly in stutterers a true spasm of the breathing, or more exactly an absolute immovability of the diaphragm which is in a condition of tonic cramp. Typical klonic cramps of the movements involved in inspiration and expiration are also very often seen.

In the treatment of stutterers, the breathing exercises must follow closely the type of breathing used by the normal individual in speaking. The inspiration must be short, made through the mouth and not the nose, and absolutely without noise. Expiration is the carrier of our speech. The more calmly, the more quietly and the longer the expiration is made, the more calmly and better do we speak. This in a very few words embodies the unbreakable first rule in the treatment of all stutterers of whatever type.

Stand the patient before you in a good light, place your hands on his ribs and tell him to breathe in quickly and exhale slowly. You will be astonished to find how very short the expiration is. Furthermore he will probably have a marked *stridor inspiratorius,* and if the vocal cords are examined during the inspiration, they will be seen to approach each other instead of separating. Usually in the beginning of the exercises the expiration will not last over 5 seconds, even in robust individuals with a good chest development.

Gymnastic exercises of all sorts should be carried out. The setting-up exercises of the United States Army correspond closely to those used by Gutzmann. The principal point, never to be neglected, is rapid and deep inspiration, with open mouth and without noise during the first half of the exercise and very slow and calm expiration during the second half.

After the breathing exercises have been carried out faithfully for several weeks or until the patient can breathe properly we can pass to the vocal exercises. Our endeavor here is also to follow as closely as possible the normal method of speaking, to use the various sets of laryngeal muscles in their normal sequence and thus teach a proper co-ordination of all the muscles involved. For example, if after a full inspiration we allow the patient to use the first third of the expiration as a breath, without sound, gradually go over into a light whisper and finally increase to a full tone, we have brought all the muscles used in vocalization into play, but in groups and in their normal sequence. These three stages of tone production must at first be exercised separately and repeated daily, and as soon as the patient is able, combined in their proper sequence.

The various forms of beginning the tone which we call "stimmeinsatz" (intonation) are difficult in varying degrees for the stutterer. The breathed intonation is usually very easy, such words as "have," "halt," "house," etc., are easy to pronounce, whereas words with a hard intonal beginning are difficult. We often note that stutterers help themselves over the difficulty by using the breathed intonation and such words as "ice" are pronounced with an "H" at the beginning so that it sounds like "h-ice." One must teach the stutterer to begin a word with the soft intonation and so drill it into him that it becomes a part of his very being.

A most important point is the determination of the height of the speaking voice. It will be found that stutterers usually have a very high-pitched voice, and this naturally puts a strain on the vocal organs and directly affects the ease and smoothness of the speech. The exercises must always be directed to lowering the pitch. Let the patients always speak as quietly, deeply and slowly as possible. The strength of the voice must also be considered. Some stutterers have found out for themselves that when they speak in a whisper they do not stutter. This natural discovery by the patient is directly in the line of our teaching and we should always seek to reduce any unusually loud or harsh voice.

Where we find spastic disturbances in the organs of articulation, we must correct them by proper articulation exercises. For example if a stutterer sticks on the consonant "M" when pronouncing the word "mutter," he presses his lips together and is utterly unable to bring the "m" out. If now he is instructed to hum the "m" before trying to pronounce it, it will come without difficulty. In the same way all the difficult consonants can be studied and methods devised for overcoming the trouble.

Perhaps the most important of all things in the treatment of these cases is the teaching of a proper tempo in reading. Practically every stutterer reads and speaks too fast and with no attention to the time. It is very necessary to develop a monotone in reading, a sing-song style, an exact description of which is extremely difficult to describe in print. The words should run together as if the sentence were one long word. Such reading exercises should be carried on day after day, and even after the patient is apparently entirely cured he must spend at least a half-hour a day with these reading exercises.

A detailed description of the exact methods to be used would far exceed the allowance of this paper. Every stutterer must be studied individually, his case gone into with the greatest detail, and the history taken with great care. Absolutely nothing should be omitted that could have any bearing on the medical or mental side of the case. The character, the temperament, the secondary, psychical symptoms should all be carefully noted.

The results of the treatment are always good. The permanence of the cure depends on a number of factors, the chief of which is the patient himself. If he is stupid, lazy and unwilling to meet you half way in the tiresome daily exercises your results will be poor. If on the other hand the patient is intelligent, industrious and will keep up his exercises even after he seems to be cured, your results will be brilliant. No royal cure has yet been devised nor ever will be; continually keeping at it brings success here, as in the solution of any other difficult problem.

## LABYRINTHITIS.*

### ITS PHYSIOLOGY, METHODS OF DIAGNOSIS AND REPORT OF TWO CASES.

By DR. GRANT SELFRIDGE, San Francisco.

Since the publications of the articles by Richards of New York in 1906, on the surgery of the labyrinth, and that of Jensen in 1907, "on the Treatment of Infective Labyrinthitis after 15 years' experience," and the various articles of Alexander, Barany, Neumann, and their English speaking students, great interest has been shown among the aurists throughout the world in the study of the functional examination of the labyrinth, i. e., the semicircular canals and cochlea.

To these men, and particularly to Barany and Neumann, great honor is due for the painstaking care they have shown in the development of exact methods for the recognition and differentiation of pathological affections of these most delicate structures and for the perfection of a technic which permits of a through surgical intervention and eradication of disease.

When we consider that 75% of the cases of cerebellar abscess, also that many cases of serous and purulent meningitis are due to infections through labyrinth and they in turn due to extension of chronic purulent affections of the middle ear and its adnexa, we are constrained to urge a most careful study of the labyrinthine functions in all chronically discharging ears, with the hope that thereby we may recognize conditions which in the majority of cases result fatally unless relieved.

It shall be my purpose, therefore, in this paper to touch briefly the anatomy of the labyrinth, its physiology and its experimental physiological history, and take up in order the different tests made use of in the functional examination of the labyrinth.

The labyrinth is composed of two parts, the semicircular canals, or the static labyrinth, and the cochlea or acoustic labyrinth. Our attention will be entirely confined therefore to the cochlea and semicircular canals for it is here that we look for most of our information in the tests on labyrinthian disease.

The canals are three in number, the external or horizontal, the superior or anterior vertical and the posterior vertical. Up to the present time no definite information has been published regarding the positive reaction of the anterior and posterior vertical canals and when speaking of the functional examinations it will be understood that our remarks refer to the horizontal canal. The diameter of the canals is about that of a cambric needle and the ampulla is about the size of a pin head.

Membranous canal has its ampulla or dilated end, which contains the hair cells and the crista, and together form the end organ of the vestibular nerve. There is a law in relation to the membranous canal that motion toward the hair cells produces a stronger reflex than when it is away from the ampulla.

"Sensation of movements of the endolymph in the semi-circular canal pass from the crista and its hair cells via the vestibular nerve and its nucleus in the medulla to Dietert's nucleus. From Dietert's nucleus fibres radiate, first to the nucleii of the motor nerves of the muscles of the eye on both sides. Second to the motor neurons of the spinal cord on both sides. Through the former, the ocular movements of vestibular nystagmus are induced and through the latter is brought about the irregular gait which characterizes violent excitation of the vestibular system. The fibres uniting Dietert's nucleus to the glosso-pharyngeal, pneumogastric and other nucleii explain all the concomitant phenomena of the reflex vertigo, the dazzling, the anguish, tachycardia, sweats, etc."

The first attempt to study the physiology of the labyrinth was made by Ritter in 1803, with galvanism, who thought vertigo resulted on the application of the current. In 1820, Purjinke treated his violently insane patients by putting them in a rotating

* Read before the California Academy of Medicine, October, 1909.

chair and observed that vertigo, nausea and vomiting resulted, with nystagmus and disturbance of equilibrium.

Lucae in 1881, observed vertigo with the sensation of external objects moving from increased air pressure in cases of perforation of the tympanic membrane. In some of his cases diplopia was also mentioned.

Flowrens in 1825, opened the external canal in animals and observed to and fro movements of the head and neck in the plane of the external canal.

Various other experiments have been made by different operators, but it remained for Ewald in 1888 to prove the relationship between the movement of the endolymph and nystagmus.

He drilled a hole into the external canal of a pigeon several mm. from its ampullary end and compressed the membranous canal completely with a plug of dental wax. He then drilled another hole nearer the ampulla and inserted a pneumatic hammer, worked with a rubber bulb and noticed that he obtained a horizontal nystagmus to the side investigated, when he made compression of the bulb, and nystagmus to the opposite side when he made decompression.

Jensen in 1898, observed in operative injury of the horizontal semi-circular canal that the patients showed nystagmus to the diseased side.

Hautant in 1906, before the Parisian Society of Otology, reports a case where radical mastoid operation was performed with the finding of cholesteatoma in the antrum with fistula of the horizontal canal. Pressure with a cotton tipped probe produced horizontal nystagmus towards the affected ear. This observation of Hautant confirms the experiment of Ewald.

When an individual is rotated from left to right the endolymph at the beginning of rotation in the right horizontal canal flows toward its ampulla; and that of the left canal flows away from its ampulla. The endolymph, at the commencement of rotation lags behind, but as rotation continues it finally catches up just as the swirling of water in a bucket which is turned round and round. If the rotation is suddenly stopped the flow of the endolymph, apparently reverses itself and flows in the opposite direction. This is the important point to remember when working out the rotary test.

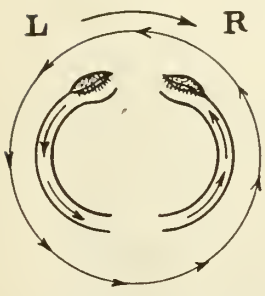


Fig. 1—Rotating left to right shows the direction of the flow of endolymph at the commencement.

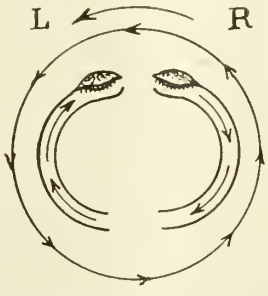


Fig. 2—Shows the flow at the stopping. In other words, the "sense of the nystagmus at the start is inversily to the sense of the nystagmus at the stop."

Nystagmus has been defined by Contella as a "more or less regular movement, more or less coordination of both eyes, that remains associated; this movement manifests itself under the form of rythmic shocks regular and independent of the will; it is due to an excitation which starting from the centers, it acts through the excito-motor fibres upon the joined nucleii and through inhibiting fibres upon the two opposing nucleii to the preceding ones."

This is the type observed in physiological nystagmus, as on extreme rotation of the eyes, in optical nystagmus i. e., that of miners, myopes, corneal opacities. Physiological nystagmus is said to be present on extreme rotation of the eyes in 60 degrees of individuals.

Labyrinthine nystagmus, however, concerns us entirely, and differs from ordinary nystagmus in that its oscillatory movement presents a quick and a slow phase. In better words a short, quick jerk and a slow one. The short jerk gives us the sense of direction of the nystagmus. As an example, if the slow jerk is to the left and the quick jerk is towards the right, the nystagmus is said to be to the right.

Nystagmus of labyrinthine origin is observed in three degrees, light, strong and violent. The light type is most frequently seen in diseased conditions, is frequently difficult to recognize; is often latent and to observe it one must frequently have the eye rotate in extreme from the suspected side. The strong type is readily seen in the primary ocular position i. e., when looking into infinity. In the violent type the nystagmus is quite evident even when the eye is rotated in extreme toward the suspected side.

Nystagmus may be spontaneous or provoked; spontaneous when disease is present, or when it is physiological. Provoked, when pressure is exerted, when the rotatory, hot or cold water, or electric tests are applied. We find spontaneous nystagmus in diffuse hyperæmia of the labyrinth, diffuse serous and purulent labyrinthitis, circumscribed (fistula), peri-labyrinthitis, in serous meningitis of the cerebellar fossa, in cerebella abscess, and in tumor.

From experiments, it has been found that five important tests are to be applied in suspected disease of the labyrinth. The fistula test; rotary test; caloric test; galvanic test; hearing test.

*The Fistula Test.*—The fistula test is made by inserting tightly a conical or rounded tip attached to a small Politzer bag into the external auditory meatus and then compression of the bulb is made. Now horizontal nystagmus to the side under investigation is produced, if the fistula is in the external canal. The nystagmus may be rotary in character if the perforation is in the neighborhood of the oval window.

*The Rotatory Test.*—The rotatory test is made in a revolving chair, preferably one where the vertical axis rests on a ball bearing, the feet being placed on a foot rest attached to the moving part of the chair so that they will escape the floor.

The axis of the patient's body should be perfectly vertical and the head supported by a head rest. The eyes are covered with ground smoked glasses and the patient is directed to look into infinity. In order

to examine the function of the right labyrinth the patient is rotated ten times in twenty seconds from left to right and suddenly stopped. The nystagmus on stopping, or the after nystagmus is horizontal and to the left. The average duration of the after nystagmus is 30 to 40 seconds, and is best observed by having an assistant elevate the upper lid and the observer throw the light from an electric light on the eyes.

The point to determine in making the test therefore, is the time the post-nystagmus continues and a comparison of the time between both sides. If on rotating first to the right and then to the left, there is a decided difference in the time of the nystagmus an affected labyrinth on the side of lesser reaction is probably present.

The rotatory test should be confirmed by the caloric test, because it has been noted by several observers that no nystagmus has been noted after rotation when the caloric test has shown an acting vestibular apparatus.

West and Scott, however, state that they make from three to five revolutions allowing five seconds to each revolution and by so doing obtain a post-nystagmus which they do not obtain by more rapid movement, this slower rotation therefore may develop nystagmus in cases that do not exhibit it on more rapid turning.

*The Caloric Test.*—The caloric test, which is the discovery of Barany, seems to possess greater value in that only one labyrinth is investigated at a time, while the rotatory stimulates both at the same time.

The caloric test can be undertaken in the sitting up or lying down position. Hot and cold water can be used, with preference for cold water at faucet temperature, between 50 and 60 degrees.

An irrigating can, holding two to four quarts of cold water, is fastened about two feet above the patient's head. The water flows through a large tube at the end of which is a small tapering nozzle with a cut off; at the end of the nozzle is attached a one-eighth inch tube which is fastened to a very small metal tube fixed in the center of an ear speculum, the latter being held in the external auditory canal by a spring metal band which goes over the top of the head and near the opposite ear. The water flows slowly into the ear and out again into a basin. The water should be allowed to flow very slowly, the time of its flowing noted with a stop watch, and to be continued until the commencing nystagmus shows itself by a slight wandering of the eyes. The water is now shut off, the patient directed to look to the side opposite the one under investigation and the duration of the nystagmus noted. The nystagmus here is rotatory or horizontal in character.

The average time before nystagmus commences is about 45 seconds, though it has been observed to be delayed for fully five minutes. It persists for from 45 seconds to 2 minutes and over. If the vestibular apparatus is out of commission there will be no nystagmus at all.

*The Hearing Test.*—The hearing test is best made by introducing the sound apparatus of Barany into the good ear. This instrument effectually shuts out all sound from the good ear. Then the Bezold tone series may be used, or one may rely on the voice test alone. Or one may use the three meter speaking tube as recommended by the Vienna school, or the small tuning-fork of Edelman.

When the speaking tube is used it has been shown in the Politzer Clinic that 50 per cent of the cases show inability to hear conversational voice and 100 per cent failures to whispered voice; when the good ear is stopped up with the moistened finger. (McKenzie) when the fork is used, it is set in vibration and held 7 to 8 inches from the suspected deaf ear, the good ear being of course stopped up. McKenzie recommends particularly this fork in "making functional hearing tests for one-sided deafness."

*Galvanic Test.*—In galvanic test from 4 to 6 milliamperes of current will produce a nystagmus in a normal individual, to the right when the kathode is applied to the right side and to the opposite side when the current is reversed. When there is a reaction with less than 4 milliamperes of current with the negative pole, we find "over irritability of that side or destruction of the opposite side" (McKenzie). This test has an element of uncertainty and appears to be of little value.

The symptoms of labyrinthitis, as observed during the course of acute or chronic purulent otitis are briefly:

1. Marked or absolute deafness.
2. Vertigo, slight or severe, with or without sensations of movements in space, or movements of surrounding objects.
3. Disturbance of equilibrium, slight or severe.
4. Slight, mild or violent rotary or horizontal nystagmus to the sound side.

These symptoms may be accompanied by headache and temperature, and when present usually mean commencing intra-cranial complications.

Case 1. George Mountford, aged 47, consulted me in December, '07, stating that his left ear had been discharging for 35 years. He had had a bad cold for the previous six weeks and complained of a sensation of something moving in his head. Two days before consulting me, when getting out of bed, he felt dizzy and things in the room appeared to rotate around him. He got back in bed, took a dose of sodium phosphate and the sensations disappeared. When he got up to go to work he felt more or less uncertain of himself.

At this time the different tests, standing on one foot with eyes closed and open, walking forward and backward with eyes open or closed, hopping forward and backward, did not produce any equilibrium changes whatever. Operation was advised for his chronic discharge and also because I thought his symptoms might be due to pressure of cholesteatoma or granulation somewhere on his labyrinth. Operation postponed by him.

On January 13, '08, when he attempted to walk across the room from a chair in which he had been sitting, he was seized with what he described as a fainting spell and slowly sank to the floor. He did not lose consciousness. His temperature was subnormal. He was moved to the hospital and a radical mastoid operation performed the same day. The bone was sclerotic, granulations were present in

the antrum. No erosion of the horizontal semicircular canal found.

Following the operation he had temperature up to 100.5°, and from his description undoubtedly had attacks of vertigo though he called them shaking sensations, which were aggravated when he attempted to turn over on his left side. There was a slight nystagmus to the right. He lay on his right side with his knees drawn up.

At each daily dressing the ear was filled with a very foul pus and I was at a loss to locate its origin until some weeks later, after he had left the hospital, when the bone cavity was dermatized except a small area in the neighborhood of the oval window. This area showed a pouting mass of granulation in the center of which I noticed a small drop of pus. I then passed a stiff Jensen probe through it and suddenly felt it drop into the vestibule.

He was examined several times while he was in the hospital by a nerve specialist to determine if his condition was due to a labyrinthine complication or an intra-cranial one. Nothing in the way of definite information was reported from these examinations.

I then became positive that the condition was one of labyrinth suppuration but as his condition was then improving I decided to see what would be the result of the daily introduction of the probe into his vestibule. The result was that the discharge gradually ceased and in two or three weeks the granulating area was completely dermatized.

For some time after leaving the hospital he had considerable trouble in walking and had to stop when he wanted to change his direction, for fear of falling down.

At present he seems perfectly well, but has occasionally a slight sensation in his head which he describes as jumpings. These sensations I have been able to produce by pressure below his oval window, which makes me think possibly there still exists a focus of trouble in his cochlea. Examination of his cochlear functions with the Barany sound apparatus in his right ear shows that he is entirely deaf to the entire Bezold tone series and to the voice. Barany cold water test is negative; rotatory test gives post nystagmus to the left 6 and to the right 12.

I must frankly admit that during the early part of this case the subject of labyrinthitis was almost a closed subject to me and I knew nothing of its functional examination until the first papers of Barany and Neuman and others appeared in special literature. The patient's recovery was a matter of good luck and I am quite certain that with a similar case I would not take such chances.

Case 2. Wildy Mitchell, age 23, during the absence of her physician, Dr. Welty, consulted me first in September for a return of a discharge in her left ear.

She gave the following history: "I lost my hearing at about six years old from scarlet fever, and had discharge up to the time of operation." Both ears operated on radically. The right ear has remained dry ever since.

The left ear was operated on in 1908. It ceased discharging in May, 1909. In July the discharge returned but ceased shortly after, while under the care of a specialist in her home town.

On examination I found a granulating area about one-quarter inch in diameter in the neighborhood of the oval window but slightly below it.

A few days later, on questioning her, I learned that in June she had an attack of vertigo which lasted some considerable time. She felt as though she oscillated in space, and the floor was wavy. On attempting to walk she had difficulty in walking in a straight line but does not remember whether she deviated to the right or left. She was nauseated only after the first attack. Several similar but much lighter attacks occurred prior to Sept. 19th. She also noted that her eyes seemed to move round and round, this movement being noticed during the entire period of her first dizziness.

On Sept. 8th she complained of her eyes and said she frequently had headaches, which occurred at different times of day; both frontal and temporal +0.5 spherical lenses were given her which gave her considerable relief.

Sept. 16th she complained of more headaches, so on the 17th I commenced the investigation of her labyrinthine functions. She showed a slight rotary nystagmus to the right side on looking to the right, none to the left. The rotary test showed a very slight nystagmus when testing the right ear.

Sept. 18th the Barany cold water test showed no nystagmus to the right side, i. e., when injected into the left ear. Injecting it into the right ear a very marked reaction rotary, in type, was observed. Sept. 20th an examination of her blood by Dr. Allen showed leukocytes 14000, a differential count showed polyneuclears 69 per cent, lymphocytes 22 per cent, large mono-nuclear 9 per cent. For several days her temperature ranged from 99° to 99.6°.

On the 21st the ophthalmoscope showed a slight blurring of the margins of the disc on the left side.

A diagnosis of chronic labyrinthitis was made and the patient sent into the hospital and operated Sept. 23rd, with the assistance of Dr. Wintermute. Complete exenteration of the canals and cochlea. Serous meningitis was not suspected and was only diagnosed when the dura was injured during the progress of enlarging the original radical, before attacking the labyrinth. Almost 4 ounces of cerebro-spinal fluid escaped during the period of operation. Both posterior and middle fossae were well exposed and a drain introduced between the bone and dura of the posterior fossa. There was some escape of fluid on the opening of the cochlea. Granulation filled the vestibule. No visible pus observed.

The day after operation, I noticed nystagmus on looking to the diseased side and that her pulse ranged from 60 to 64, except when a change of the external dressing was made.

It was interesting to note that there was a tremendous escape of cerebro-spinal fluid during the first 24 hours, soaking the dressing, pillow and even wetting the mattress. It gradually lessened and ceased in about 8 days. The low pulse disappeared on the fourth day. Headache was not noted after operation and her subsequent course has been uneventful.

Dr. Thos. J. Harris of New York, in a paper read before the American Otological Society in 1907, gave a very interesting account of post-operative meningitis following suppurative otitis, and reports statistics from two of the leading ear hospitals. In one, ten deaths occurred in eighty-three operative cases, a mortality of 12.5 per cent. At the same meeting Gradle is quoted as giving a mortality of 8 per cent occurring in one of the Chicago hospitals. In the same article Dr. Harris quotes the statistics of Zeroni, who says of the forty fatal cases collected by him twenty-nine at the autopsy showed evidence of chronic labyrinthitis.

Arnold Knapp in the *Archives of Otology* for 1907, in a paper on otitis meningitis, in mentioning statistics collected by himself, says in twenty-two out of fifty-two cases "the infection extended through the labyrinth." Are not the statistics rather

startling? They do not point to the operative interference as a cause of the intra-cranial mischief, but rather to a labyrinthine involvement latent and already existing at the time of the operation. Therefore, does it not appear self-evident that the ear surgeon of to-day should familiarize himself with the labyrinthine tests, apply them before he operates, and be prepared to thoroughly destroy the semicircular canals and cochlea if necessary, in order to prevent an intra-cranial invasion.

When we consider that from 2 to 8 per cent of suppurative diseases of the ear present some serious complication, and to quote the words of Dench, in referring to purulent otitis, "are we not justified in operating on practically every case where the discharge can not be controlled by simpler methods." rather than follow the statement of one of the gentlemen at the last meeting of the State Medical Society, that "one could postpone operative interference until complications arose."


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Wintermute, California State Journal, 1909.


### Discussion.

Dr. Wintermute: There is one point in the paper that I do not think Dr. Selfridge made clear. He seemed to indicate that the function of the labyrinth was twofold: auditory and static. It is really threefold. The cochlea is concerned with audition; the vestibule has the static function—by the movement of the otoliths on the hair cell groups of the vestibule, we determine our relative position in space—while the function of the canals is dynamic; by them we determine our movement through space by currents of the endolymph acting on the hair cells of the crista ampullaris. In birds which have to orient themselves through the dimensions of space we find the canals enormously developed compared to man, who, in retrogression of function, orients himself through only two of its dimensions. Another point which was not clear was in regard to the anterior and posterior vertical canals. If I remember correctly he stated that their functional examination had not been worked out. These canals can be examined by placing the patient's head, in the turning tests, so that a current is set up in either one. If you wish to test the anterior vertical canal flex the patient's head forward, in which position the centrifugal impact establishes a current in it, and a rotary nystagmus results depending in direction upon the direction in which the patient is turned. If you wish to test the posterior vertical, you bend the patient's head over his shoulder while he is turned. Each canal produces nystagmus in its own plane: the horizontal produces a horizontal nystagmus; the anterior vertical lying at right angles to the sagittal plane produces rotary nystagmus, and the posterior vertical, lying in the sagittal plane produces a vertical nystagmus. In regard to the practical results of this labyrinthine work, I think it is the greatest advance that has been made in otology since the inauguration of the radical mastoid operation. The statistics Dr. Selfridge quoted at the end of his paper are eloquent. Eight to twelve per cent of mastoid operations were followed by meningitis in some eastern institutions. These cases were due to labyrinth involvement, which has been unrecognized, and the trauma of the operation broke down the barriers to one of the then direct communications between the labyrinth and the meninges and meningitis resulted. We can now recognize an involvement of the labyrinth and make our operation much more thorough by chiseling out the canals into the vestibule and opening up the cochlea for thorough drainage, and our fear of subsequent meningitis is consequently reduced to nil. Even in those unfortunate cases of unrecognized labyrinth involvement in which a radical operation was done and meningitis did not result, the ear kept on discharging because the labyrinth was not drained, and now the outlook for the operation being successful in stopping all discharges is much enhanced by being prepared to recognize involvement of this region and take steps to adequately drain it. One of the most eloquent tributes to this work is the fact that 75 per cent of the cerebellar abscesses came directly from a labyrinth involvement, and in the clinics where this work is done, the percentage of cases of cerebellar abscess has dropped in a remarkable manner, as compared to the number of cases in the same clinic before the labyrinth examinations were inaugurated. The proper recognition and treatment of labyrinth involvement brings us a long way ahead in prevention of intra-cranial complications, and in obtaining the results we aim at in our radical operations.

Dr. Welty: Some twenty years ago the radical ear operation was perfected, and since that time and including the present there has been considerable controversy as to the advisability of this operation, good men maintaining radically opposite views. The reason of this great difference of opinion was based upon the fact that an occasional case would die in a few days following this radical ear operation, that had been entirely healthy prior to this. This was the great stumbling block of otologists for the past twenty years. During the last few years (thanks to Barany for perfecting labyrinthian tests, and to Dr. Neuman for perfecting the best labyrinthian operation), we will be able to save most of these cases because a large majority of them have a labyrinthian suppuration at the time of operation or a labyrinthian fistula, and from this there developed a meningitis with a fatal issue. From this it naturally follows that the radical ear operation will become more popular, but you must be prepared to make your various labyrinthian tests before operation. When correctly made, and positive prior to operation, you know full well what has happened if a cerebral complication develops. Furthermore, you know much better just what to do. Possibilities and probabilities, and can speak with great assurance in individual cases. As the subject stands to-day, an ear surgeon is not qualified to do a radical ear operation unless he is prepared to do a labyrinthian operation.

The cases of labyrinthian suppuration must be left alone (to die of a possible cerebral complica-

tion), or the labyrinth must be operated at the same time of the radical mastoid. The reason for this is, that the radical ear operation produces an acute exacerbation of the chronic labyrinthitis and from these acute exacerbations most of the serious cerebral complications develop.

## THE RELATION OF LAW TO MEDICINE.*

By JUDGE JNO. G. COVERT, Kings Co.

Dr. Musgrave, your President, honored me by requesting that I read a paper to your honorable body upon this occasion upon the relation of law to medicine. I have taken him literally at his word, and will read a paper; although it does not possess that technical treatment and careful preparation of the theme that is usually expected in an instrument that is dignified by reading.

Law is the ultimate voice of society, establishing rules and regulations found to be necessary for its preservation and progress, and providing for the enforcement of the same.

Medicine has for its object the preservation of life and health, the curing of disease and the alleviation of suffering.

Life and health, next to liberty and happiness, is most desired by man. The object of law being to procure to man those things most conducive to his welfare and preservation, it therefore follows that the law is closely related to medicine.

The object of the law, is to assist society, to foster and encourage whatever may be beneficial thereto. Accordingly the law appreciating the benefit of the science of medicine, and the advisability of placing the fewest possible obstructions in the way of practice and progress of medicine, has scarcely enacted a general law that tends to interfere with, or hamper the physician in the practice of his profession.

The law has placed medicine upon a high plane, and has left the government of its practice to the honor, morals, intelligence and code of ethics established by men who have chosen it as their life work.

While the relation between the two professions, or sciences, is near, it is liberal in the extreme, the only object of the law being to aid the profession of medicine, by the enactment of such legislation as will remove the barriers of obstruction and protect the profession and the public from the machinations of the charlatan, and the pretender. I think you will find that almost all law pertaining to medicine, has had its origin in the suggestion of the doctors themselves.

The lawyers, in their practice, rely almost entirely upon the opinion of medical men in matters concerning health, mental conditions, and causes of death. The courts in examinations, for the purpose of determining the sanity or insanity of a person whose mental condition is questioned, have recourse to the medical profession, and are governed by the opinion of the physician almost solely in their conclusions.

A certificate from a reputable physician, suffices to excuse a person from attendance in court, if in the opinion of the physician who writes it, it would seriously affect the health of the person served with process.

The law prescribes no procedure for the practice of medicine. The physician's knowledge, the surgeon's skill, coupled with his diploma or license from the proper authorities, is his grant of right to administer any drug, however potent, to perform any operation, however dangerous, if in his opinion it is advisable; and if he acts in good faith, he is answerable only to his conscience.

The law has found it necessary, under what is commonly termed police regulations, to enact certain statutes and ordinances, providing for sanitary and hygienic regulations, for the purpose of eradicating and preventing disease. These regulations are based wholly upon the principles of the science of medicine, as enunciated by the doctors; and are established for the purpose of compelling an indolent or careless individual or individuals to conform to such intelligent rules of health as will protect the public and prepare the way for a robust succeeding generation.

To enforce these laws, officials, generally designated health officers, are appointed; and quite naturally doctors, by reason of their professional qualifications, are chosen to fill such offices.

These offices are highly important, not only for the present generation, but for generations to come. If the advice of the physician were followed by all, advice founded upon a profound acquaintance with the laws of nature, many of the ailments from which the human family now suffer most, would be eradicated, and crime lessened to a marked degree.

Therefore, he who accepts an office, accepts a public trust, and is obligated to qualify, and enter upon the discharge of his duties. Unfortunately, it sometimes happens through the faulty, or incomplete construction of the statute or ordinance, that the duties of the officers are vaguely set forth; yet in the main, the conscientious officer can see the way to the discharge of his duties clearly; and the inaptitude of language is always susceptible of correction; and the legislator is generally found glad to correct his mistakes, once they are pointed out.

The health officer inspects the food supplies, and condemns that which he finds unwholesome. He nails a yellow flag and excludes the world from a

* Read at the Seventh Semi-Annual Meeting of the Central California Health Officers' Association, Hanford, October, 1909.

room, a house, a street or a municipality, and imprisons all the persons within the confines of the quarters quarantined, and the law stands behind him to enforce his order.

No ship lands until the doctor has given it a clean bill of health, no matter how exalted the personage of its passenger list; the arbitrary commandant of the army, or navy, must bow submissively to the recommendations of the surgeon, even to the extent of modifying his plans and orders; and the law is always standing behind the doctor, ready to enforce his directions.

You, gentlemen of the medical profession, have always been the friend and comfort of suffering humanity; and humanity owes you a deep debt of gratitude. You have studied, and you have progressed. You have kept a record of your past experiences, you have profited by the efforts of others. Each year marks some new discovery, some new specific; and the human family is the beneficiary of your efforts and your knowledge.

You are called from your slumber, your fireside, your table, on a moment's notice; you must be on your way to minister to those requiring your assistance; by your profession, you have become the guide and prop of suffering flesh; the staff upon which man leans heavily through life. The sacred confidential friend of the family, that stands by the bedside of the mother in travail, and by the bedside of him or her who fights the last great battle, and passes beyond all human aid.

Gentlemen, I am really sorry that I have nothing of practical, or substantial value, to offer you in consideration of your time and indulgence; but in my opinion, it would not be advisable for me to undertake to lay down principles of law, upon which you would rely; because it has been my experience that to get advice or information that is reliable it is necessary that the adviser know the specific facts, circumstances and conditions, and that the law be examined with the purpose of finding that which particularly applies to the given facts.

Gentlemen, I congratulate you upon the great good you have done, and the great progress you have made. May the science of medicine continue in the future as it has in the past, a boon to mankind.

I assure you that the law and the exponents of the law esteem you highly. Our relation has always been cordial, the courts and the lawyers repose the utmost confidence in you, and rely upon you as an able and intelligent assistant in procuring justice and right. You may safely rely upon the support of the law in your efforts for society as a common purpose; our present friendly relations will always necessarily continue.

## A CASE OF MASTOIDITIS WITH SINUS THROMBOSIS.*

By Dr. E. C. SEWALL, San Francisco.

F. K., American by birth, age 15, printer. Complaint: Discharge from the right ear.

Family history: Father dead by drowning. Mother well. Brother and sister alive and well. Two miscarriages and one death at birth, before any living children were born.

Past history: Normal birth. Patient always well and strong. Measles two years ago; whooping-cough four years ago. Patient is not a mouth breather. At the age of two years had discharge from the ears, first one and then the other. The discharge had foul odor. On an average of every six months the discharge would appear, usually preceded by a cold. Patient thinks the discharge ceased between attacks (?).

Present illness: The pain is not severe, and is relieved by syringing out. Five days ago the right ear began to discharge in the usual manner, except that there was not as much discharge and more pain than in the previous attacks. At times the pain was throbbing; at other times it was dull and heavy, the whole head aching. No position was comfortable. The day following the pain was very severe; patient was delirious for three or four hours. Was given some powder by a doctor which put him to sleep. Discharge still slight. For the next three days the condition remained the same. The pain started in the right side of the neck and extended up to the mastoid region, thence over the posterior occipital region. In these dizzy spells he staggered, but not more to one side than the other. Has not vomited and has not been nauseated. Has had no appetite. Three nights ago had a nose bleed (patient has been subject to nose bleed more or less all summer). The only sign of possible motor irritation has been a tendency to scratch himself and pick at his fingers. The last day or so has been very irritable—noises, etc., being very distasteful. The discharge is still scanty. The hearing up to the present illness has been fair. The headaches have generally been over the right side of the head, especially frontal and occipital in character. Just before entering the hospital the patient felt cold—had no pronounced chill.

Present examination: Patient well nourished and well developed. Lies comfortably. Eyes: Pupils equal, react to light and to accommodation. Backgrounds normal. Movements normal. Fields normal. Considerable swelling over the right side of the neck, extending upward to the mastoid tip and downward for a distance of 10 c.m. This is tender to the touch and gives pain when he turns his head to the left side. There is no fluctuation, redness or edema. Very little if any redness, swelling, or edema over the mastoid. The region, however, is very tender on palpation, especially at the tip. The external auricular canal is filled with foul smelling, purulent discharge, pulsating in the fundus. On washing out, but little could be made out in the neighborhood of the membrana tympanum; all landmarks obliterated, no typical prolapse of the posterior wall. The whole canal is narrowed and granulation tissue is present.

Left ear: Canal normal. Foul purulent discharge in the fundus. Membrana tympanum perforated. Condition of chronic purulent otitis media.

Hearing:

R. Bone cond. Gradenego XV > Air cond., Webber, right.

L. Bone cond. Gradenego XV < Air cond., Webber, right.

Watch contact (right).

Watch 6/36 (left).

Nose: Crusting, bleeding patches on both sides of

* Read before the Academy of Medicine, October 26, 1909.

the septum. Space roomy on both sides. The inferior turbinates are atrophic. No odor, nor pus, although there are a few crusts on the middle turbinates.

Pharynx: Tonsils slightly hypertrophied and buried.

Heart: The right border one c.m. outside. The left border within mammary line. Apex in the fifth interspace. Systolic murmur especially marked in the third left interspace.

Abdomen: Flat.

Liver: Not palpable.

Spleen: Two fingers below the ribs.

Reflexes: Abdominal—present. Cremasters—present. Knee-jerk apparently more marked on the left side. No paralyses.

Rhomberg rather marked. Patient was in no condition for examination for other symptoms of labyrinthian involvement.

The temperature on entering the hospital was 102.5°, pulse 112, respiration 24. The temperature rose to 104.8°, pulse 130, respiration 40, the afternoon of the sixth day of the onset of the acute attack—the first day in the hospital. After hovering about 104° during the night, the temperature dropped to 102° at 8 o'clock the following morning. Pulse 111, respiration 24, at 8:30 a. m. The patient vomited a large quantity. At 2 p. m. the temperature had gone to 103.6°. Blood count showed 13400 white; 78% polys; 2% mono.; 4% large lymphocyte; 16% small lymphocyte. Urine analysis showed a light cloud of albumen.

Diagnoses of mastoid abscess complicating chronic otitis media, with Bezold's extension of pus into the neck.

The mastoid was opened, pus was found immediately throughout most of the cells of the pneumatic mastoid. The radical mastoid operation was done. The diseased mastoid cells were cleaned out down to the firm plate covering the sinus. No perforation of this was found. The malleus and incus were removed. Patient took anesthetic as badly as possible.

Tried for fluctuation in the neck, and although none could be found, for fear that there might be pus under the fascia, an opening was made without finding pus. Patient was put back to bed—the impression being fixed in our minds that we had not found enough pus in the mastoid to account for the symptoms, and also because the neck condition was not cleared up. The chart shows how the temperature for three days following the operation rose and even going on two occasions to 105.2°. The next day the patient had a chill followed by sweating—told of feeling chilly only on being questioned. Following the operation, the patient always answered brightly and said he felt well, which was apt to be misleading. There were chills and sweats at intervals, with great variations in temperature. Two days after the first operation the patient suddenly complained of pain in the left wrist. This was accompanied by swelling and extreme tenderness on palpation.

The blood examination was repeated for malarial parasites. The day following the first operation the blood count was 18400. Two days later the white count was 11400; poly 90; large lymphocytes 2; small lymphocytes 8—a fall in the total white count, but an increase in the percent of polys.

Diagnosis of infected thrombosis of the lateral sinus was now made, and again patient was operated upon. The second operation following three days after the first operation.

The wound was enlarged, the sinus laid bare and its bony wall removed. The mastoid emissary vein had to be ligated and with its free bleeding, gave evidence of the fluidity of the blood in the region of the knee of the sinus. On searching, however, downward toward the jugular bulb a complete obturating infected thrombosis was found. The jugular was immediately ligated and the infected material removed as carefully as possible. The mastoid wound was not closed—the jugular wound was closed.

The day following the second operation the temperature again rose to 105.2° and the day following to 103.2°. The wounds were then inspected and the jugular incision found to be infected. This was opened and packed loosely. Since then there has been practically no symptom of note. The temperature has gradually declined, until for the past few days it has been normal. Patient feels well and has a good appetite; has been in the garden in his chair, and has walked a little.

It has been 15 days since the mastoid operation. The condition in his wrist has nearly cleared up.

December 1st, 1909—Patient at present is normal in every respect except that the wound has not entirely healed.

Hearing: Right, bone conduction Gradenego IX > air conduction, Weber right, watch contact, conversational voice 3 feet.

Left, bone conduction Gradenego IX < air conduction, watch 3/36, low whisper 4/8.

### Discussion.

Dr. Cullen F. Welty: This is a very interesting case from many different standpoints. In the first place it illustrates the serious complications that are sure to follow in many cases of chronic suppuration of the middle ear. Had this patient been operated for his chronic suppuration he would not have been subjected to the more critical operation of sinus thrombosis, which has a mortality of about 25%. I have reiterated for the last six years the advisability of the radical operation, to eliminate these very conditions, and when we are actually confronted with the complications most feared, it does seem to me that conservatism after all, consists in more thorough radical work. Certainly conservatism cannot be associated with any condition that will allow such serious cerebral complications to develop. I hope no offense will be taken at what I am going to say, as we assemble in meetings to criticize and be criticized. In this way we profit by the experience and judgment of others.

In the first place this patient was admitted to the hospital with an acute exacerbation of a chronic ear suppuration. Temperature 102, the following day reaching 104. With such a history and temperature, you are to more than suspect a cerebral complication, and the patient should have been operated at once. During the next 24 hours the patient had chills and temperature of 104 or more. Three days after the patient was admitted to the hospital the radical operation was done. The bone over the sinus looked healthy and should not be disturbed so Dr. Sewell says. Another wait of three days, with characteristic rise and fall of temperature and added to this an embolus to the wrist. At this time the sinus was operated and jugular ligated. Is there any wonder why he continues to have temperature? It is because the patient at this time is suffering from a septicemia. The case should have been operated when he entered the hospital, or at the very latest the following day. The sinus should be uncovered in all such cases. (In fact it is the accepted teaching of the ordinary text-books of to-day), and then if there is any question as to the diseased condition of the sinus it should be opened. You must bear in mind so long as the work is surgically clean you can do no harm in such operative work. The harm comes in the so-called conservatism that we hear so much about, especially from the non-operating otologists. Had this particular patient had his sinus operated at the time or rather when he should have had the radical mastoid, you can say with almost absolute assurity, that it would not have been neces-

sary to ligate the jugular, nor would he have had an embolus, or a septicemia as a result of delay, with the possibility of other endless complications that may follow as a result of the septicemia. Had the operation been done prior to the embolus formation, the temperature would have dropped to normal and remained there with but very slight variations.

I am not familiar with the case where the jugular wound can be absolutely closed.

Dr. Wintermute: The point which struck Dr. Welty also struck me, and that is that the case has decided fluctuation in temperature which should have suggested immediately the possibility of sinus thrombosis. One thing which was not clear in the reading of the paper was the treatment of the vein. I did not quite catch how the vein was treated. In the radical treatment of the vein nowadays it is to dissect it out clean and leave no source of infection behind when you do not get a free flow of blood from below, but if you do not do this you must at least bring the vein out and allow it to drain on the outside of the wound; if that had been done there would not have been the infection of the neck wound that followed.

Dr. F. A. Hamlin: I think that Dr. Sewall's idea in this operation was, that while a meningitis or a sinus trouble had been considered likely, he better not at that time go further as the bony wall over the sinus was clean and clear and the meninges where exposed, were not involved. In regard to the treatment of the vein, the vein was not obliterated or removed, nor was it drained at the site of ligation, and this infection which followed was rather a superficial infection than a deep one and cleared up immediately on opening the wound.

## A TESTIMONIAL.

The friends of Professor Von Recklinghausen of Strassburg, Germany, are soliciting contributions for a testimonial to this famous teacher and investigator. Admirers and former pupils who wish to contribute please communicate with Dr. W. Ophuls, Cooper Medical College, San Francisco, Cal.

## BILL NO. 1112. ORDINANCE NO. 975. (New Series.)

Providing methods for the prevention of the spread of Tuberculosis.

Be it ordained by the People of the City and County of San Francisco as follows:

### Reports by Physicians and Others.

Section 1. Tuberculosis is hereby declared to be a communicable disease, dangerous to the public health.

It shall be the duty of every physician practicing in the City and County of San Francisco, and of every person in charge of any hospital, dispensary or other private or public institution in said City and County, to report in writing to the Board of Health the name, age, sex, color, occupation, address and place where last employed, of every person having tuberculosis which comes under his care or observation. Said reports shall be made in writing on a form furnished as hereinafter provided, and shall be forwarded to said Department of Public Health within twenty-four hours after knowledge of the case comes to said physician or person.

### Examination of Sputum.

Section 2. It shall be the duty of the Health Officer when so requested by any physician or by authorities of any hospital or dispensary to make or cause to be made a microscopical examination of the sputum sent him as that of a person having symptoms of tuberculosis, accompanied by a blank giving name, age, sex, color, occupation, place where last employed, if known, and address of the person whose sputum it is. It shall be the duty of the Health Officer to promptly make a report of the results of such examinations free of charge to the physician or person upon whose application the same is made.

### Protection of Records.

Section 3. It shall be the duty of the Health Officer to cause all reports and all results of examinations showing the presence of the bacilli of tuberculosis made in accordance with provisions of Sections 1 and 2 respectively of this Ordinance to be recorded in a register of which he shall be the custodian. Such register shall not be open to inspection by any person other than the health authorities of the State and of the said City and County, and said health authorities shall not permit any such report or record to be divulged so as to disclose the identity of the person to whom it relates, except as may be necessary to carry into effect the provisions of this Ordinance.

### Disinfection of Premises.

Section 4. In case of vacation of any apartment or premises by the death or removal therefrom of a person having tuberculosis, it shall be the duty of the attending physician, or if there be no such physician, or if such physician be absent, of the owner, lessee, occupant or other person having charge of said apartment or premises, to notify the Department of Public Health of said death or removal within twenty-four hours thereafter; and such apartment or premises so vacated shall not be occupied until duly disinfected, cleaned, or renovated, as hereinafter provided. Further, it shall be unlawful for any person suffering from tuberculosis to change his or her residence or to be removed therefrom until the Department of Public Health has been notified so that the vacated apartment or premises may be disinfected, cleaned, or renovated.

### Health Officer to Direct Disinfection, Cleaning or Renovation.

Section 5. When notified of the vacation of any apartment or premises as provided in Section 4 hereof, the Health Officer or one of his deputies shall thereafter visit said apartment or premises and shall order and direct that except for purposes of cleaning or disinfection no infected article shall be removed therefrom until properly and suitably cleansed or disinfected, and said Health Officer or deputy shall determine the manner in which said apartment or premises shall be disinfected, cleansed or renovated in order that they may be rendered safe and suitable for occupancy. After the health authorities determine that disinfection is sufficient to render them safe and suitable for occupany, said apartment or premises, together with all infected articles therein, shall be immediately disinfected by the Department of Public Health; or if the owner prefers, by the owner at his expense to the satisfaction of the Health Officer. Should the Health Officer determine that such apartment or premises are in need of thorough cleaning or renovating, a notice to this effect shall be served upon the owner or agent of said premises, and said owner or agent shall proceed to the cleansing or renovating of said apartment or premises in accordance with the instructions of the Health Officer, and such cleansing and renovating shall be done at the expense of said owner or agent. Such articles that cannot be disinfected or renovated to the satisfaction of the Health Officer shall be destroyed.

### Prohibiting Occupancy Until Order of Health Officer Is Complied With.

Section 6. In case the orders or directions of the Health Officer requiring the disinfecting, cleansing

or renovating of any apartment or premises or any article therein as hereinbefore provided shall not be complied with within forty-eight hours after said orders or directions shall be given, the Health Officer may cause a placard, in words and form substantially as follows, to be placed on the door of the infected apartment or premises:

"Tuberculosis is a communicable disease. These apartments have been occupied by a consumptive and may be infected. They must not be occupied until the order of the Health Officer directing the disinfection or renovation has been complied with. This notice must not be removed under the penalty of the law except by the Health Officer or other duly authorized official."

### Prohibiting Carelessness of a Person Having Tuberculosis.

Section 7. Any person having tuberculosis who shall dispose of his sputum, saliva or other bodily secretion or excretion so as to cause offense or danger to any person or persons occupying the same room or apartment, house or part of house, shall, on complaint of any person subject to such offense or danger, be deemed guilty of a nuisance; and any person subject to such a nuisance may make complaint in writing to the Health Officer, and it shall be the duty of the Health Officer receiving such complaint to investigate and if it appears that the nuisance complained of is such as to cause offense or danger to any person occupying the same room, apartment, house or part of a house, he shall serve a notice on the person so complained of, reciting the alleged cause of offense or danger and requiring him to dispose of his sputum, saliva or other bodily secretion or excretion in such a manner as to remove all reasonable cause of offense or danger.

### Protection of Patient's Family.

Section 8. It shall be the duty of a physician attending a patient for tuberculosis to take all proper precautions and to give proper instructions to provide for the safety of all individuals occupying the same house or apartment.

### Forcible Removal.

Section 9. In cases of tuberculosis proven by sputum analysis, or where the attending physician or inspector is willing to vouch for the diagnosis, when the necessary precautions can not or will not be observed, or when others, especially children, are exposed to infection, a patient may be removed by force if necessary, even if consent of patient or family be not obtained, to such place as may be designated by the Department of Public Health.

### Printed Precautions to be Furnished by Health Officer.

Section 10. It shall be the duty of the Health Officer to transmit to a physician reporting a case of tuberculosis as provided in Section 1 of this Ordinance a printed statement and report naming such procedure and precautions as are necessary or desirable to be taken on the premises of a tubercular patient. Upon receipt of such statement or report, the physician shall either carry into effect all such procedures and precautions as are therein prescribed, and shall thereupon sign and date the same, and return to the Health Officer without delay; or if such attending physician be unwilling or unable to carry into effect the procedure and precautions so specified, he shall so state on this report, and immediately return the same to the Health Officer and the duties therein prescribed shall thereupon devolve upon said Health Officer. Upon receipt of this statement and report, the Health Officer shall examine the same and satisfy himself that the attending physician has taken all necessary and desirable precautions to insure the safety of all persons living in the apartment or premises occupied by the person having tuberculosis. If the precautions taken or instructions given by the attending physician are, in the opinion of the Health Officer, not such as will remove all reasonable danger or probability of danger to the persons occupying the same house or apartment or premises, the Health Officer shall return to the attending physician the report with a letter specifying the additional precautions or instructions which the Health Officer shall require him to make or give, and the said attending physician shall immediately take the additional precautions and give the additional instructions specified and shall record and return the same on the original report to the Health Officer. It shall be the duty of the Health Officer to transmit to every person reporting any case of tuberculosis, or if there be no attending physician, to the person reported as suffering from this disease, a circular of information which shall inform the consumptive of the precautions necessary to avoid transmitting the disease to others.

### Penalty for False Statement.

Section 11. It shall be unlawful for any physician or person practicing as a physician to report knowingly as affected with tuberculosis any person who is not so affected or willfully make any false statement concerning the name, sex, color, occupation, place where last employed, if known, or address of any person reported as affected with tuberculosis, or certify falsely as to any of the precautions taken to prevent the spread of infection.

### School Attendance.

Section 12. No instructor, teacher, pupil or child affected with pulmonary tuberculosis shall be permitted by any superintendent, principal or teacher of any public, private or parochial school, except by written permission of the Health Officer.

### Report of Recovery.

Section 13. Upon the recovery of any person having tuberculosis, it shall be the duty of the attending physician to make a report of this fact to the Health Officer, who shall record the same in the records of his office and shall relieve said person of further liability to any requirements imposed by this act.

Section 14. Any person violating any of the provisions of this Ordinance shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not more than five hundred dollars ($500), or shall be imprisoned in the County Jail for a period not exceeding six (6) months, or by both such fine and imprisonment.

Section 15. This Ordinance shall take effect immediately.

In Board of Supervisors, San Francisco, December 6, 1909.

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## BILL NO. 1168. ORDINANCE NO. 1040. (New Series.)

Amending Section 9, of Ordinance No. 975 (New Series), entitled "Providing methods for the prevention of the spread of Tuberculosis, which became a law on December 17, 1909.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. Section 9 of that certain Ordinance numbered 975 (New Series), and which is entitled "Providing methods for the prevention of the spread of Tuberculosis," which became a law on December 17, 1909, is hereby amended so as to read as follows:

Section 9. Whenever a person having tuberculosis is unable for financial reasons, or from any other cause to comply with the rules of the Board of Health providing the precautions to be observed to prevent

the spread of infection, or when such person willfully refuses to comply with said rules and in all cases where children are unavoidably exposed to infection, the Board of Health may, on presentation to it of proof that such person is a sufferer from tuberculosis, order his immediate removal to a hospital or other institution for the care of sufferers from tuberculosis. Such person shall not be permitted to leave such hospital or other institution until the danger of infection has been removed or he is able and willing to comply with the precautions and rules herein referred to.

Section 2. This Ordinance shall take effect immediately.

In Board of Supervisors, San Francisco, January 5, 1910.

## CALIFORNIA ACADEMY OF MEDICINE.

### "CHRONIC URANIUM NEPHRITIS IN ANIMALS."*

By E. C. DICKSON, San Francisco.

Dr. E. C. Dickson reported a second series of experiments upon the production of experimental chronic nephritis in animals by the use of uranium nitrate, and demonstrated gross specimens and microscopical slides to illustrate the lesions produced. The experiments were a continuation of those reported in the Archives of Internal Medicine, Vol. III, No. 5. The animals chosen for this series of experiments were young pups which had been fed upon milk, bread, mush, etc., but practically no meat, as it was hoped that in this way the occurrence of spontaneous lesions might be prevented as much as possible. Five pups were subjected to experiment and one normal control was kept in the same cage. All of the injected animals showed some reaction during life, as was indicated by the presence of albumin and casts in the urine. Two of the animals which had received the smallest doses per kilo within a given time showed slightly mottled kidneys with small dimples upon the surface. The microscopic sections showed some thickening of the glomerular capsules, and some increase in the intertubular connective tissue. One animal, which had received a larger dose per kilo, showed very large, markedly mottled kidneys with distinct dimpling on the surface. The sections showed marked parenchymatous change, definite thickening of the glomerular capsules, and in some places very marked increase in the intertubular connective tissue. The remaining two animals which had received the largest doses per kilo in the given length of time, showed very marked shrinkage of the kidneys with thickened, firmly adherent capsules, and with very definite granulations on the surface. In one there were distinct macroscopic retention cysts. The cortex was thin and pale, and the whole kidney substance was very fibrous. The microscopic sections showed very marked increase in the connective tissue with thickening of the glomerular capsules, atrophy of the tubules, and in some places, cystic dilatation of the glomerular capsules. The newly formed connective tissue was very cellular, and it was evident that the condition was progressive. The type of change was very similar to that produced in the guinea pigs in the previous experiments. In the animals in which there were the most severe kidney lesions, the relative proportions of the heart and body weights would indicate that there was definite hypertrophy of the heart. A few slides were shown of similar, though less marked changes which had been produced in the kidneys of rabbits.

(A more detailed report will be made within a few weeks.)

* California Academy of Medicine, Dec. 21, 1909.

Dr. Wm. Ophuls: I am very much interested in this subject as I have been working on the experimental reproduction of nephritis in animals for some time. I am particularly interested in Dr. Dickson's experiments because he has been so successful in producing lasting and progressive changes in kidneys, a result which so far has not been accomplished by any other method to the same degree. I think there is no doubt that in this instance the effects observed are actually due to the substance introduced as the lesions are extremely characteristic and as they are similar in the different animals, that have so far been tested. Guinea pigs, rabbits and dogs have given similar changes which hardly could be a matter of chance. Moreover, our studies of spontaneous nephritis in these animals which we have conducted at the same time show that the lesions in such cases are very different from those observed in these uranium animals and our control investigations have also shown that, particularly in the guinea pig, spontaneous nephritis is extremely rare. It is quite common in dogs, somewhat less so in rabbits, although in both cases of a different type from that which Dr. Dickson has demonstrated, but among 100 specimens of control guinea pig kidneys we have encountered marked nephritic changes in two only. I think the experiments open up a very hopeful field of experimentation and that there are important questions connected with nephritis which these experiments are sure to solve. One is the relation of the chronic renal lesions to the disturbance of circulation which are commonly observed in chronic nephritis. These experiments evidently must show eventually whether the rise of blood pressure which we have in cases of chronic nephritis in man is due to the destruction of the kidney substance, or due to the accompanying vascular lesion. Dr. Dickson has already indicated that even now there are some suggestive facts about the experiments, which seem to show that the animals experimented upon do actually have increased blood pressure and as a result, a certain amount of hypertrophy of the heart. The number of experiments, however, is not large enough as yet to draw any very sweeping conclusions. Another problem that has always been one of great interest is the relation of chronic nephritis to arterio sclerosis. You know that there are quite a number of authors who assume that the arterio sclerosis, at least in a certain number of cases, is secondary and perhaps the direct result of increased blood pressure. This problem also should be elucidated by such experiments. I think Dr. Dickson's idea of trying the effect of substances on young animals is a very good one; in the first place because young animals are not very apt to show spontaneous lesions, and in the second place, if severe changes are produced in young animals, we may hope to continue them alive for a sufficient length of time to develop secondary lesions. The exact relation of this experimental disease to human nephritis is another question. We are just now making a comparative study of nephritis to this experimental disease and from what we have seen so far it seems quite evident that the experimental disease is not identical with the type of chronic nephritis in man which it otherwise simulates. To the naked eye the most severely affected kidneys look very much like ordinary granular contracted kidneys, but the histological picture differs strikingly so far as the blood vessels and glomeruli are concerned. In man we always have a very severe arterio sclerosis which of course may be secondary, but we also have changes in the glomeruli distinctly different from those which Dr. Dickson has observed in his experiments. However, though it should not be possible to absolutely reproduce the picture of chronic granular kidney, it still will be very important to solve the above-mentioned two problems in relation to the disturbances in circulation and to the accompanying arterio sclerosis.

**Regular Meeting November 23, 1909.**

Presentation of a case of Hodgkin's Disease by Dr. Ebright:

This man is 27 years old. One year ago last May he noticed that his neck was getting larger on the left side. The following August, fifteen months ago now, he was operated upon in Chicago and lymph glands removed from his neck and a diagnosis of tuberculosis was made, whereupon he came to California. But the swellings soon returned, not only at the site of operation on the left side of the neck but also upon the right side, and in both axillae. In May of this year his neck was very large and the enlargement of lymphatic glands was seen also in the axillae and at the angle of the left scapula. This latter small gland was removed and on section presented the usual evidences of Hodgkin's disease. The patient's spleen and liver were enlarged and there were signs of consolidation at the right pulmonary apex. It seemed to me that this was atelectatic rather than tubercular, so to be sure the patient was kept in bed in hospital for several days and his temperature carefully measured for variations and he was given 2 mg. of TO and later 4 mg. of TO, but there was no fever and no tuberculin reaction. The point to which I wish particularly to draw attention, and which was the reason for presenting this patient to you, is the result of therapeutic use of the X-ray. Iron and arsenic and forced feeding had been tried with no result. He had been sent to the country for the summer and became worse. So last August, when his neck measured 15½" in circumference and his hemoglobin was down to 50% (von Fleischl) he was sent to Dr. Painter for X-ray exposures. The result was extremely gratifying. After a dozen treatments at the rate of two a week his neck was much better in appearance than at any time during which he was under my observation. And he felt very much better generally, so much so that he asked permission to go to work at bookkeeping. His neck measurement dropped from 15½ to 13½" and his blood showed 69% hemoglobin instead of 50%. The red cells have always been above 5,000,000. On palpation the glands after the treatments were individually smaller and as a whole less tense and matted. Unfortunately the spleen and liver have been steadily enlarging and the glands of the axilla and the mediastinum have been growing worse. So although the improvment of the cervical glands has been decided and the encouragement derived by the patient has been great enough to make him happy and hopeful, there is unfortunately no reason to give other than the usual ultimate prognosis.

Dr. Montgomery, discussing:

The curious phenomenon of the action of the X-rays has been mentioned; their action on lymphosarcoma or Hodgkin's disease, on leprosy, one of the infectious granulomata, on cancerous tissue, and on mycosis fungoides. Up to the time of the introduction of the treatment by X-rays, we had no remedies that would act on any of these diseases in a curative or ameliatory way. The extirpation of the part affected with cancer is not curative in a therapeutic sense, it is annihilation of the locality involved. In regard to the way in which the X-rays act we are entirely in the dark; we only know that they are tried and that they are found to modify the above-mentioned affections. A case of leprosy has recently been reported as probably cured by the X-rays.

Dr. Ebright:

With regard to the temperature in this case, I would say that the patient was in the hospital for 4-5 days and the temperature was watched every 2 hours; there was no variation; there may have been a run of fever at some time during the course of this disease, however. There have been exacerbations in the size of the glands at times. I do not think the improvement in this case is a permanent one; the best we can hope to do is to prolong the life of the man and make him more comfortable. Some light has been thrown upon the action of the X-ray. Experiments have been made on rabbits which showed a destruction of the lymphatic tissues. In this case the liver and spleen have gotten larger steadily, the glands in the axilla have also steadily enlarged, those in the neck have gone down, the hemoglobin has gone up and down. After four or five treatments with the X-ray the hemoglobin was 50%, it is now up to 69%. I think that our position in regard to this particular kind of treatment should be that where the glands are large and give disturbance from pressure, it is right to use the X-ray and see if relief cannot be gotten. It is generally acknowledged that better results are obtained from the X-ray than from arsenic or iron.

## SOCIETY REPORTS

### BUTTE COUNTY.

The regular monthly meeting of Butte County Medical Society was held at Chico at the Sisters' Hospital Sunday at 5 p. m., February 13, Dr. E. A. Kusel of Oroville, president of the Society, presiding. The following members were present: Drs. P. F. Bullington, C. L. Browning, N. T. Enler, E. A. Kusel, D. H. Moulten, O. Stansburg, B. F. Spurgeon, Ella F. Gatchell. A large number of the nurses of the city were also present.

Dr. J. H. Parkinson of Sacramento, president of the State Medical Society, was present and addressed the society on the advantages of organization in regard to social aspect, financial matters and legislative business.

A paper on the "Relations of Physician and Nurse" was read by Dr. N. T. Enler, and the subject was further discussed by Dr. Parkman, whose remarks were exceedingly interesting.

ELLA F. GATCHELL, Secretary.

### RIVERSIDE COUNTY.

The February meeting of the County Medical Society was held on Monday evening, February 14th, at the Glenwood Hotel and had about eighteen members present. Following the banquet which was held at the hotel, Dr. W. L. Holt of Banning read a very able paper on the subject, "Economics and Tuberculosis." Dr. C. M. Haring, associate professor of Veterinary Science, University of California, met with us and gave us a very interesting and instructive talk on the subject, "Tuberculosis in Cattle."

At a recent meeting of the Society, we decided to take up the matter of medical inspection of schools and appointed a committee of three, Drs. Tucker, Martin and Girdleston to confer with the City Board of Education to make an effort to bring about this inspection.

It was decided that the members of the Medical Society should give the necessary time to make a thorough examination of the three thousand school children in our public schools, without compensation. We feel that this is a very encouraging step for the preservation of the public health in this community.

The Society has already taken action in regard to the attempt of the Kaplan Medical Publishing Company to appropriate the Register and Directory of the State Society, and has refused to accept the publication.

GEORGE E. TUCKER, Secretary.

## REPORT OF THE MEETING OF THE SAN JOAQUIN VALLEY MEDICAL SOCIETY, HELD IN FRESNO, MARCH 8, 1910.

The San Joaquin Valley Medical Society met in the council chambers of the City Hall, Fresno, March 8, 1910. Dr. P. Manson, president, called the meeting to order at 11 o'clock a. m. There was a good attendance of physicians from all over the valley, from Stockton to Bakersfield. Owing to a long program, the business was cut short and the society proceeded to the reading of papers.

Dr. Manson read an address to the society on "The Benefits of Medical Organization." We were favored by having several of the profession from San Francisco present who read papers. Following is a list of the papers read:

"Indications and Contra-Indications for the Use of Spinal Anesthesia," Aso W. Collins, M. D., San Francisco.

"Treatment of Heart Failure," Emile Schmoll, M. D., San Francisco.

"Tonsilectomy vs. Tonsilotomy," Jas. A. Black, M. D., San Francisco.

Address by Jas. H. Parkinson, M. D., President Medical Society, State of California, Sacramento, Cal.

"Benign Conditions of the Uterus that Resemble Malignancy," W. W. Cross, M. D., Fresno, Cal.

"The Importance of Blood Findings to the General Practitioner," Grace Thorne Hopkins, M. D., Fresno, Cal.

"Report of a Case of Polycystic Degeneration of the Kidneys," J. D. Dameron, M. D., Stockton, Cal.

"Prosecution of Illegal Practitioners," J. A. Crashaw, M. D., Hanford, Cal.

The following were elected: President, W. W. Cross, M. D.; 1st Vice-President, W. E. Lilley, M. D.; 2nd Vice-President, J. A. Crashaw, M. D.; 3rd Vice-President, J. T. Perry, M. D.; Secretary, Grace T. Hopkins, M. D.; Assistant Secretary, D. H. Trowbridge, M. D.; Treasurer, T. M. Hayden, M. D.

The Fresno County Medical Society tendered the members present a banquet at the Hotel Bascongado, where they all enjoyed the novelty of a real French dinner.

D. H. TROWBRIDGE, M. D., Secretary.

## SANTA CLARA COUNTY APPOINTMENTS.

The names of the Santa Clara County medical appointees for the year beginning March 1, 1910. Reappointed: Dr. William Simpson, County Health Officer; Dr. K. C. Park, City Physician. New appointments: Resident Physician to County Hospital, Dr. Jonas Clark of Gilroy; Physician to County Almshouse, Dr. M. V. Mulcahy; Interne at County Hospital, Dr. F. L. Horne.

## BOOK REVIEWS

**Text Book of Physiology.** By Wm. Howell, M. D., Third edition, etc. Publishers, W. B. Saunders Company, 1910. Philadelphia and London.

Howell's text book is such a companion to the student of physiology that it is difficult to place it at a distance, gain perspective and say just why it is so. Its thorough appreciation requires a certain amount of preliminary education as it makes little attempt to supply to the student deficiencies in histology or anatomy, and it supposes a fair acquaintance with the work of a physiological laboratory. To the student so grounded it becomes a very satisfactory text, bringing to him the latest conclusions upon various topics and their experimental basis, and when debatable stating briefly alternate conclusions and the data upon which they rest, so saving the student from a certain dogmatism of conclusion and statement. The author has introduced historical résumés occasionally to show the student how gradually and by what processes knowledge has arisen, and that sound conclusions are reached gradually as an evolution.

The second edition of two years ago contained much new in the field of digestion and assimilation resulting from chemical researches. The third and present edition adds to the chapter on reproduction a "suggestive contribution by Rubner to the difficult subject of growth and senescence," based upon a careful study of the relation of the total calories of food to weight and growth at different ages in men and various animals.

Various other new facts and theories such as are warranted by a review of recent published researches of recognized value are added.

The worth of the text appeals to both student and practitioner. F. W.

**Bier's Hyperemic Treatment.** By Willy Meyer, M. D., and Victor Schmieden, M. D. Publishers, W. B. Saunders Co., 1909.

No better evidence of the popularity of Bier's mode of treatment can be given than the appearance of Willy Meyer's and Schmieden's second edition of their book in so comparatively short a time. The demand for this edition is undoubtedly due to the extensive field of adaptability of the hyperemic method of treatment, reaching as it does into all branches of medicine, and to the excellent results obtained under its proper application.

As a cure and therapeutic agent artificial hyperemia has now an established and honored position in our armament against inflammatory processes, but gaining its greatest triumphs when used prophylactically.

Of course, it must not be assumed that now the millennium has come; that all that is necessary to effect a cure is to apply the elastic bandage, glass cup or hot air box. Far from it. If the rules laid down in this book are not closely followed; if, in case of acute and chronic inflammations, a correct diagnosis, even as to details, does not underlie the treatment, the trouble will get worse, instead of better, under hyperemic treatment.

If, on the other hand, the physician strictly follows the directions given and, above all, is mindful of the fact that a gentle hyperemia only is required to produce the desired effect, at least in cases of acute infectious inflammation, in other words, that a "too much" is absolutely injurious, he will soon become convinced that in Bier's treatment we have a most powerful and efficient remedy, altogether unlike any other known to us before. He will then grasp the full truth of Bier's new teachings that have revolutionized all our former theories and ideas regarding the nature and significance of inflammation, proclaiming the latter a salutary process, representing nature's own weapon in fighting the invading foe, a phenomenon that must be favored and encouraged, not combated. The fact that artificial hyperemia, properly applied, can prevent the outbreak of a threatening inflammation, or the spread of a beginning one, is absolute proof of this assertion.

Exceptions must be taken to the greater part of Chapter V, relating to hyperemic treatment in medicine. That "the application of the neck band has produced noteworthy results in epidemic cerebrospinal meningitis" demands confirmation. How many pediatrists will adopt Bier's elastic neckband "to obtain more rapid loosening of the diphtheretic membrane and to prevent descent of the process into the larynx and subsequent complications"?

The use of Kuhn's patented lung suction mask for the hyperemic treatment of pulmonary tuberculosis is explained in greater detail than clinical experience would seem to justify.

Willy Meyer and Schmieden have been very successful in securing numerous and appropriate illus-

trations, all of which are clear cut and bring out decisively the idea they are intended to convey. These, in conclusion with a well-written text, and the report of cases, exemplify the detail of technique and the appropriate apparatus in a very valuable and comprehensive manner.

The indexed bibliography is complete; the general index makes the volume very serviceable.

G. A. W.

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**Psychology Applied to Medicine.** By David W. Wells, M. D. F. A. Davis Company, Philadelphia, 1907.

In this small book of 140 pages, the author first reviews the elementary principles of psychology and then discusses the subjects of hypnotism and psychotherapeutics. The latter part is very interesting but on the whole can hardly be said to do justice to this large and important subject.

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**Principles of Surgery.** By N. Senn, M. D., Ph. D., LL. D., C. M. Revised. Fourth edition by Emanuel J. Senn, M. D., and Emanuel Friend, M. D. Publishers, F. A. Davis Co. 1909.

Published at the zenith of the great Senn's surgical activity (1890), the first edition of this volume was the first systematic presentation of the subjects of bacteriology and pathology in the light of recent discoveries; it, therefore, did much to interest the rank and file of the profession in the newer developments. His teaching of modern surgical pathology has had a permanent effect upon American surgery, and his experimental investigations gave a lasting impetus to both general and special surgery. Senn's services as "master surgeon," as clinical teacher and as experimenter have received universal recognition.

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**Those Nerves.** By George Lincoln Walton, M. D., Consulting Neurologist to the Massachusetts General Hospital. Publishers, J. B. Lippincott Company. 1909.

This delightful little book, by the author of "Why Worry," could have been called, as he himself suggests, "That Brain."

Dedicated "to those who need it," its perusal will be found to benefit any and every one of you and your patients. The least nervous will find that he does some thing, has some habit or weakness that is not just the characteristic of a normal brain. To be sure, I felt that nothing in it would apply to me, and laughed aloud at the quotation from Epictetus, and then, a few moments later there came an earthquake (March 10th), an inexplicable oppression and tachycardia. Here is the quotation:

"In a voyage, for instance, casting my eyes down upon the ocean below and looking around me, and seeing no land, I am beside myself, and imagine that, if I should be shipwrecked, I must swallow all that ocean; nor does it occur to me, that three pints are enough for me. What is it, then, that alarms me, —the ocean? No; but my own impressions. Again, in an earthquake, I imagine the city is going to fall upon me; but is not one little stone enough to knock my brains out? What is it then, that oppresses and makes us beside ourselves? Why, what else but our own impressions?"

R. B.

**Text Book Upon the Pathogenic Bacteria.** Joseph McFarland, M. D., Publishers. W. B. Saunders Co., Philadelphia. 1909.

The sixth edition of this "Text Book Upon the Pathogenic Bacteria," is a volume of seven hundred and nine pages, an increase over the preceding edition of about sixty pages. It has been extensively revised, and is well up with the recent advances of investigation. The general plan of the book is good, and the subdivision logical, making it a volume from which the student can readily obtain a systematic knowledge of the subject.

The first section upon "general considerations" is fairly complete, giving sufficient detail without too much comment. The descriptions of technique are concise, and the discussion of the preparation of the culture media, and of the differential staining methods indicate the difficulties which are apt to be encountered. The chapter on "Immunity" presents the subject matter most clearly, and has been considerably enlarged to include the recent studies which have been made. A new chapter has been inserted on the phagocytic powers of the blood and the opsonic index, but for some reason, reference to this has been omitted from the table of contents.

The grouping of the bacteria according to their pathogenic action, and the concise though detailed descriptions of the cultural characteristics present to the student a systematic scheme which is easily understood. The short resume of the chief characteristics at the head of each description is especially convenient for rapid review. The discussion of the pathogenic action and of the therapeutic applications are sufficiently detailed to be easily grasped. The chapter on "Syphilis" has been entirely rewritten in view of the discovery of the specific cause, and a brief discussion of the modern methods of diagnosis has been added. The chapter on "Typhoid" has been revised to include the recent studies on vaccination, and the discussion of "Hog Cholera" has been considerably modified because of the question which has been raised as to the specificity of the organism.

The book is well bound, and the text is clearly printed upon good paper, and well illustrated. The style is simple, and easily read. There is a complete bibliographic index, and the general index is well arranged. The volume is one which must appeal to the student of pathogenic bacteriology, and the carefully compiled bibliography renders it of considerable value as a book of reference.

E. C. D.

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**The Test-Diet in Intestinal Diseases.** By Prof. Adolf Schmidt. Authorized Translation by Charles D. Aaron, M. D. Publishers, F. A. Davis Co. 1909.

It is remarkable that internists who do not fail to examine the urine and even the gastric contents of their gastro-intestinal cases, frequently overlook the diagnostic examination of stools. This is due to the prudery of the public and the repulsiveness of the examination. Both are easily overcome. The methods of examination have of late years been greatly simplified, thanks to the persevering researches of Adolf Schmidt, and this book embodies and details the methods (familiar to all who have followed his publications in the German literature) at present commonly used.

The test-diet is a simple one. It gives one a standard stool, for comparisons made between feces of patients on varied diets would greatly complicate the subject.

The examination of the stool macroscopically both before and after grinding it up in a mortar, is carefully detailed. In my hands in an experience acquired during the last eighteen months, the latter is

perhaps the most valuable part of the entire method.

The mieroseopic examinations of the stool, first unstained, then heated on a slide with aeetic aeid, and a third stained with Gram's solution, likewise give many points of diognostie import.

The other procedures detailed include the sublimate test for hydrobilirubin (adding few glts. of solution HgCl to ground up feces) the test for dissolved albumen (seldom necessary), Weber's test for blood, and the so-called incubator test. The latter is simply a series of small bottles, in one of which 5 gms. of stool is mixed with water, and so arranged that gas, forming in it, will foree water from second bottle into the empty third one, the displaced amount of water denoting the extent of fermentation of undigested carbohydrates.

Many valuable therapeutie suggestions are given and reading the book will certainly prove instructive to all.

The work is very well illustrated and it is hoped that sueh typographical errors as oecur on page 24 will be eliminated in future editions. R. B.

## DR. HODGHEAD NOT CONNECTED WITH THE P. AND S.

To the Editor of the State Journal: Relative to a critieism of myself in the February Journal, please announee, by publishing this letter, that nearly two years ago I resigned as Dean of the College of Physicians and Surgeons, and a few months later resigned as Trustee. I was therefore in no manner a party to the withdrawal of the suit referred to, and until your editorial was published, I did not know that the suit had been dismissed.

Very truly,

D. A. HODGHEAD.

## NEW JOURNAL.

Those of our readers who are interested in the various forms of Physiologie Therapy (including Hydrotherapy, Eleetrotherapy, Massage, Hyperemia, etc.) will be glad to know that it is proposed shortly to inaugurate a new journal devoted solely to the delineation of the progress made in these lines of therapeutie endeavor. The American Journal of Physiologic Therapeutics will be published bimonthly and the subscription price will be $1.00 a year. The names and addresses of all interested physieians should be sent in at once, and those desirous of subscribing may enclose their remittanee when writing. The Ameriean Journal of Physiologic Therapeutics, 72 Madison street, Chicago.

## NEW AND NON-OFFICIAL REMEDIES.

Since January 1, 1910, the following artieles have been accepted by the Counеil:

Accepted for N. N. R.—
Filmaron (Merck & Co.).
Filmaron Oil (Merck & Co.).
Thiol Liquid (Riedel & Co.).
Thiol Powder (Riedel & Co.).
Aeeepted for N. N. R. Appendix—
Maltine with Cod Liver Oil (Maltine Co.).
Maltine with Caseara Sagrada (Maltine Co.).
Maltine with Creosote (Maltine Co.).
Maltine Ferrated (Maltine Co.).
Maltine with Hypophosphites (Maltine Co.).
Maltine with Wine of Pepsin (Maltine Co.).
Malto Yerbine (Maltine Co.).
Maltine with Olive Oil and Hypophosphites (Maltine Co.).
Maltine with Phosphate of Iron, Quinia and Stryehnia (Maltine Co.).

## COST OF CITY GOVERNMENTS AND HEALTH DEPARTMENTS.

Washington, D. C., March 6, 1910.

In the United States Census Bureau's speeial annual report for 1907 on the the statistics of 158 of the largest cities, whieh is in press, it is shown that the per eapita running expenses of the government in 148 of the largest cities inereased from $13.36 in 1902 to $15.91 in 1907. There has been a progressive increase in nearly every department of the government. The per capita increase in the fire department was from $1.33 to $1.61; in the health department from $0.22 to $0.29; in charities and correetions from $0.86 to $1.06; and in edueation from $3.85 to $4.70.

Of special interest in a comparison of the general expenses of the eities are payments for the maintenanee of the health department. In several cities the state maintains a dispensary or health bureau, but in most eities, nearly all the expense of the care of the publie health is borne by the eity alone. New York paid $1,691,560 for the maintenanee of its health department, or more than six times as mueh as any other eity. The other cities paying more than $200,000. for the maintenanee of this department were Chicago ($261,614), Philadelphia ($253,709), and San Franciseo ($240,198).

Cities of over 300,000 poulation with notably small payments for their health department were Detroit ($32,987), Milwaukee ($40,417), and Buffalo ($44,358). In smaller cities the large expenditures of Los Angeles and Oakland, California, refleet payments for the suppression of the Bubonic plague.

The payments for schools, libraries and art galleries of the eities considered were 29.6 per eent of the otal running expenses of the government. Of the eities of over 300,000 population, the pereentage spent for education was highest in Cleveland, Ohio (33.1); in cities of from 100,000 to 300,000 population the highest pereentages were in Scranton, Pa., (51.5), and Seattle, Wash., (46.2); in eities of from 50,000 to 100,000 population, in Salt Lake City (48.2), and Des Moines, Iowa (46.3), and in the smaller cities, in Topeka, Kans., (54.5), and Lincoln, Neb., (53.5). Payments for outlays are not ineluded in the above eomputations.

### New Members.

**Hamilton, Jo**, Fruitvale, Cal.
**Daggett, E. H.**, Oakland.
**Wells, W. B.**, Riverside, Cal.
**Gregory, Lester C.**, Fort Bragg, Cal.
**Van Allen, Louis K.**, Ukiah, Cal.
**Devine, C. T.**, Berkeley, Cal.
**Arnold, C. S.**, Berkeley.
**Howard, Burt Foster**, Alta, Cal.
**Mulligan, A. P.**, Bowman, Cal.
**Shoemaker, David**, Truckee, Cal.
**McDonnell, C. H.**, Saeramento, Cal.
**Buffum, E. H.**, Fair Oaks, Cal.
**Ward, J. M.**, Oak Park, Cal.
**Cline, John W.**, Santa Rosa, Cal.
**Potts, R. D.**, Oxnard, Cal.

### Resigned.

Baldwin, W. A., Sacramento, Cal.
Briggs, A. E., Saeramento, Cal.
Bond, Jas. L., Ukiah, Cal.
Cushman, R. A., Covelo, Cal.

### Deaths.

Morgan, P. Brett, Berkeley, Cal.
West, R. W., Robinson Ferry, Cal.
Gordon, Wm. A., Mountain View, Cal.
Chamberlain, F. O. Former address unknown; died in San Franeiseo.
Woodruff, W. L., Long Beach, Cal.
Day, Edward W., Vaeaville, Cal.
**Bates, Homer O.**, Long Beaeh.

# California State Journal of Medicine.

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

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## EDITORIAL NOTES.

**ANNUAL MEETING.**

For the first time in some years, it is not possible to print the full report of the annual meeting of the State Society, held at Sacramento April 19th to 21st, in the May issue of the JOURNAL. Some of the reports and essential documents necessary to complete the records were not available until the close of the sessions and it would have delayed publication too long had the JOURNAL been held up awaiting them. This is unfortunate, but it did not seem desirable to publish a portion of the reports and the minutes of the sessions in one number and the balance, including the report of the President, in a subsequent number. In this issue, however, will be found a running account of the meeting and some items of interest in connection with it; the full and complete report and the official minutes will appear in the issue for June. The meeting was a distinct success, though doubtless a larger representation of our members from the South would have been on hand had the place been more centrally located. The profession of Sacramento did everything possible to contribute to the pleasure and the comfort of those in attendance, and the members who were there will not soon forget the very pleasant meeting at Sacramento. The new Hotel Sacramento was comfortable to the point of luxury and the management did everything possible to make our members enjoy their stay.

**DEPARTMENT OF HEALTH.**

As most of our readers are doubtless aware, a movement has been on foot for a number of years to secure the creation by the federal government of a Department of Public Health. The agitation was really commenced by the American Medical Association quite a few years ago. Later, a Committee of One Hundred of the American Association for the Advancement of Science was formed to do pretty much the same work. Many conferences and joint sessions have been held and a great deal of agitation has been the result. President Taft, in his message, endorsed the movement to establish a Bureau or a Department of Public Health. Senator Owen, of his own initiative, drew up and introduced Senate Bill No 6049, which creates a Department of Public Health with a cabinet officer at its head. This bill the united energies of the Committee of One Hundred and of the American Medical Association are now urging upon the Congress. The law proposed is a most excellent one and it should have the hearty support of every public-spirited citizen. Write to your Senator and your Congressman at once and urge upon them that they be not inactive in supporting this measure. It assuredly is high time that almost as much attention should be given by the federal government to the health of its citizens as it gives to the health of its hogs. And particularly, write to Senator Perkins. He seems to have acquired a peculiar idea, in some occult way, that local boards of health are opposed to the bill. In a letter to one of our members who wrote to him on the subject, he says: "Inasmuch as nearly every Board of Health in the United States is opposed to any change in the present method of caring for the public health, it is very doubtful whether the Owen bill will pass." Will Mr. Perkins please be a little specific in regard to the boards of health in his own state? Does the State Board of Health oppose this bill? Does he know of any county or city board of health that opposes it? A little more enlightenment is very desirable, Mr. Perkins, in view of this very sweeping and preposterous statement. The proposed measure is the result of years of hard work and careful study and its various phases have been considered at many a conference of boards of health —and so far the only intimation that anyone has received that the proposed law is objectionable to boards of health, is the bare statement in Mr. Perkins' letter. It is peculiar that he should know of this opposition—and no one else have any inkling of it. Has Mr. Perkins, unbeknownst to the Committee of One Hundred, taken such an intense interest in this movement that he has, of his own volition, corresponded with all the boards of health in the country and learned what no one else has been able to discover—that they are all opposed to it? It is queer. Write to Mr. Geo. C. Perkins, United States Senate, Washington, D. C., and ask him why he thinks the boards of health oppose it. Also, stir up your own board of health and see what they have to say on the subject.

**GOOD WORK.**

Some comment and some criticism are necessarily called to an article which appears in this issue of the JOURNAL from the pen of Dr. Crawshaw, of Hanford. But in the first instance we must commend most highly Dr. Crawshaw's efforts in the matter of the prosecution of an illegal practitioner, a Chinaman, in Hanford. It is energy of this sort that goes to make a better standard and to secure from the public more respect for the medical profession. Dr. Crawshaw, however, like probably 99% of physicians, is somewhat in the dark as to the facts involved; it is easy to say "let us do so-and-so," but when you come down to the practical side of it, it is not so easy to determine just *what* to do or *how* to do it. As pointed out in a report from the Board of Examiners, read at the recent meeting of the State Society by Dr. Barbat, there has never been any systematic effort made to prosecute illegal practitioners or prevent their beginning practice, and this is true of the whole period from 1876 to date. It was in 1907 that the duty of upholding the medical practice act was placed in the hands of the Board of Examiners; up to that time the law had made it the duty of local prosecuting officials who, of course, did not know anything about the law and so never prosecuted. After 1907 the board, while required to uphold the law, was given no means by which to do so and thus the possible activity of the board as such was negatived. All its income was consumed in defending suits against the law. In spite of that fact, and through the personal energy of certain individual members of the board, considerable sporadic work in the direction of the prosecution of illegal practitioners was performed during 1907, 1908 and 1909. Such work, however, is, in the long run, of little value for it stops with the loss of interest of the individual; to be effective, the effort should be continuously sustained. Some one in every county of the state must ever be on the watch for violations of the law; that seems to be obvious. It also seemed to the board, last August, that the best possible arrangement would be to secure the co-operation of county medical societies for this purpose, and therefore the first letter from Dr. Tisdale to Dr. Crawshaw was to that effect. There was nothing new about it; for some years various county medical societies had been helping in the work. It is not always safe to condemn without due consideration, and Dr. Crawshaw's letter of July 30th reached the office of the Board of Examiners just at a time when it is the busiest—preparing for the heavy August examination, and everybody is swamped with work; letters sometimes have to wait before they are answered.

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**MORE ON THE SAME.**

It has been pointed out more than once in the JOURNAL that few lawyers and almost no physicians really know anything about the medical practice law or the decisions pertaining to it. That is true of most prosecuting officers. It has been decided by the Supreme Court of this state that a license to practice medicine is not a piece of property belonging to the licensed physician; it is merely a police permit, subject to revocation at any time. In consequence it is not a duty of the Board of Examiners to prove that John Doe is *not* licensed, but it is the duty of John Doe to prove that he *is* licensed by producing a certificate if he has one; failing this he is an illegal practitioner. Ignorance of this decision (known as the Boo Doo Hong case) occasionally leads a prosecuting attorney to subpena the board to produce the records in court and show that the accused is not licensed. This is wrong because the records are most valuable, are constantly needed in the office and furthermore should never be subjected to the possible danger of loss or damage in transporting them from place to place. The records of the office show that all correspondence in this case of Dr. Crawshaw's was properly attended to. The matter was referred to the attorney for the Board of Examiners and he reported that the local prosecuting attorney was doing everything necessary and was quite willing to attend to the case. What more could be asked? Dr. Crawshaw exhibits a great deal of righteous indignation that the proposition should have been made to get some young lawyer and pay him the fine assessed. He evidently does not know that practically every prosecution in the state has been done and paid for in exactly that way and that the arrangement is entirely satisfactory to every attorney who has done the work. There is nothing "extraordinary" about it and there are plenty of lawyers of large "calibre" who are quite willing to do the work on that basis. Dr. Crawshaw's plea to each and every practitioner in the state "to get busy" is good; if they will all do so and petition the legislature in no uncertain manner for a small appropriation to carry on the work, a great deal can be done; without funds or machinery the board is helpless. The machinery is now in process of construction and in a few months will be in condition to begin operating; but it takes time to build up something that will cover the entire state and that will continue in operation and not work merely spasmodically and sporadically.

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**THE WORST QUACKS.**

The worst offenders are not the few men who have settled down here and there and are practicing without a license; they are the licensed physicians who have chosen to prostitute their profession to quackery. Dr. Crawshaw refers to Fer Don, a notorious advertising quack; but this man is always able to find some licensed physician to travel around with him and write prescriptions, etc. Once or twice it has happened that evidence against him was secured, but then it developed that the victims would not prosecute on account of the trouble and publicity. And so the board is condemned in that instance, when no blame should attach to it. A good deal of complaint has come in about Chamlee, the advertising cancer-cure quack. But this man also is a licensed physician and some years ago the board attempted to revoke his license on account of his advertising. The case was appealed to the Supreme Court of the state and the board was not sustained, the court holding that the advertisements of Chamlee were within his legal rights. Still, a great many people, not knowing

these facts, want to know why the board does not stop this advertising and a lot more of the same sort; the board *cannot* stop it. Practically all the advertising quacks are licensed physicians or have licensed physicians in their employ and there is no way of either stopping them or having their licenses revoked, under our laws. We did succeed in getting a conviction against one such man for obtaining money by false pretense (J. J. Arberry) and the case is now on appeal. He was sentenced to two years in San Quentin and if the verdict sticks we may be able to get some more of this class. Furthermore, through the efforts of our attorney, in a civil action, the money paid to Arberry was restored to the victim. As to the comment on the financial side of the board's affairs, the report from our members, presented by Dr. Barbat at the recent meeting, gives all the information to be desired. It costs nearly the whole income of the board to pay its operating expenses. It costs a good deal to do anything, but a great many people seem to forget the fact. Two-thirds of the work done in the State Society office is of a nature connected with the general work of the Society and the accommodation of the members—and it costs money; but if the Society exists for anything it certainly is supposed to exist for the benefit of its members.

## ETHER AND IMMUNITY.

The occurrence of post-anesthetic pneumonia and the aggravation of pre-existing infectious processes after the employment of an anesthetic may depend upon a multitude of circumstances, but in a certain number of cases it has long been suspected that the anesthetic itself, particularly ether, may by virtue of a depressing effect on the immunizing mechanism of the body, be responsible in large part at least for these conditions. Several years ago Rubin (*Journal of Infectious Diseases,* 1904, vol. I, p. 425) showed that hypodermic injections of alcohol, ether and chloroform render rabbits much more susceptible to systemic infections with streptococci and pneumococci; and other observers have obtained results which in the main show that ether lowers the resistance of animals to bacterial excitants of disease. The subject has again been recently restudied by Graham (*Journal of the American Medical Association,* 1910, vol. LIX, p. 1043) with interesting results. In this investigation, which included observations upon various manifestations of bacterial immunity, he found that the addition of various amounts of ether up to 1% exercise no applicable influence upon bacteriolysis; the same conclusion was reached regarding the action of ether upon agglutination in amounts varying from 0.1% to 2% or after an ordinary anesthesia. In the observations on phagocystosis, on the other hand, it was found that, when added to both normal human and rabbit serum in vitro in varying amounts of from 1% to 2.5%, ether reduces markedly the phagocytosis of streptococci. A similar effect was observed after an ordinary ether anesthesia, both in the human subject and rabbit. This effect was also noted with the pneumococcus, staphylococcus pyogenes aureus, bacillus coli communis, and the typhoid bacillus.

Rather interesting in connection with this study is the demonstration that this reduction of phagocytic power of blood after an ordinary ether anesthesia may continue over periods of two days' to several weeks' duration. This is apparently due to a direct effect of the ether on both leukocytes and serum, and not to any effect on the bacteria. Whether this is due to the mere presence of the ether in the blood, which does not seem rational, or whether the ether induces physical or chemical changes, or possibly both, which seems more likely, the exact manner in which this depressing effect of the ether upon the phenomenon of leukocytosis is brought about is not yet clear. In this connection, however, the hypotheses of Meyer (*Arch. f. eper. Path. u. Pharmak.,* 1899, vol. XLII, p. 109 and 119) and Overton (*Studien uber die Narkose,* Jena, 1901) that the anesthetic action of the fat-solvent drugs depends on their mechanical affinity for the fat-like substance of the body, is most interesting and suggestive. And with this in mind, Graham conducted a series of experiments to determine whether or not the fat-solvent quality of the ether is essential in the mechanism of phagocytic depression. The problem was approached by first determining the effect in vitro of the addition of a fat-like lecithin to blood the phagocytic power of which had been reduced by the admixture of ether; and from these experiments Graham found that the addition of lecithin or olive oil to blood whose phagocytic index had been reduced by ether resulted in a prompt restoration to its normal function in this respect. He also found that ether to which lecithin or olive oil had previously been added no longer exercised a depressing phagocytic action upon normal blood. It was found, however, that more olive oil was necessary than of lecithin to prevent this action. The introduction of olive oil into the rectum (5 oz.) of patients after ether anesthesia resulted in a restoration of the phagocytic function into its pre-anesthetic condition in from three to six hours, whereas otherwise the period of depression lasted as stated above a number of days.

At the present time it is impossible to forecast the practical possibilities of this most suggestive experimental study, but it is full of hints for original investigation in the direction of bedside medicine or along the byways of purely academic interest.

## STATE SOCIETY MEETING.

For reasons already given, only a fragmentary account of the meeting of the State Society at Sacramento can be published this month. The meetings of the Certified Milk Commissions, the Public Health Association and kindred bodies on Monday, were well attended and presented interesting and profitable programs.

On Tuesday morning the first session of the Fortieth Annual Meeting of the State Society was called to order at 10 o'clock by the President, Dr. James H. Parkinson. Before the close of the first morning session nearly 150 had registered in attendance, and thus the meeting was most successfully inaugurated.

The Mayor of Sacramento, Hon. M. R. Beard, made a happy address of welcome to Sacramento, and in the name of the County Medical Organization, Dr. G. W. Dufficy welcomed the visiting members in a few well chosen sentences.

The President's address was received with enthusiasm and was referred to the House of Delegates to consider his recommendations.

Reports on medical education, preliminary education, the history of medical education in California, the work of the Board of Examiners and kindred topics were read by Dr. Thos. W. Huntington, Dr. Emmet Rixford, Dr. W. Jarvis Barlow, and Dr. J. Henry Barbat. All of the papers on the program for this session were read, except Dr. Bering's, which was read on Wednesday morning. Dr. Bering's paper was in the nature of a plea for a State institution for the treatment of those addicted to alcohol or drug habits, and was enthusiastically discussed by a number of those present, and a recommendation to the House of Delegates was presented and referred to that body.

On Tuesday afternoon two sections were running simultaneously, the Genito-Urinary, and the Eye, Ear, Nose and Throat sections. Both had excellent attendances, and the Eye and Ear program furnished material that was so extensively discussed that it had a special session on Wednesday morning in order to complete the papers set down.

The general session on Wednesday morning was of great interest to all and the symposium on tropical diseases, with lantern slides and microscopical specimens, held a very large attendance until long past the hour of noon.

Dr. W. A. Clarke, of San Leandro, brought two patients with pellagra. Unfortunately the full program could not be completed and four or five papers were passed.

From the way in which good papers are presented in increasing number each year, it is apparent that the time will soon arrive when two or more sections will have to be run simultaneously during the three days' session, with but one or two general sessions in the morning. The experience of Wednesday was repeated on Thursday; the surgical symposium was so excellent that the discussion developed consumed a great deal of time, with the result that some papers were crowded out.

The Entertainment Committee did itself and Sacramento proud by the way in which the comfort and entertainment of the visiting members and ladies were looked after. Tuesday afternoon there was a reception and tea at Dr. Parkinson's house, the ladies of Sacramento doing the honors in the enforced absence of the distinguished host. That evening there was a reception and smoker at the University Club, where music and refreshments were provided. Wednesday afternoon an ample number of automobiles were provided by the professional and lay citizens of Sacramento, and all those in attendance were given a delightful ride to Folsom. The weather was ideal for the trip. Thursday night a formal reception to the President and members of the State Society was given by the County Medical Society, an elaborate musical program having been arranged. The kindness, tact and courtesy of the physicians and citizens of Sacramento will not soon be forgotten.

The House of Delegates transacted a large amount of business in the two sessions held Tuesday and Wednesday nights. On the first night only the various reports of President, Council, Secretary, Editor, etc., and some resolutions and other matters of new business, were introduced. All these were referred to a special committee consisting of H. Bert. Ellis, Los Angeles; Stanley Stillman, San Francisco, and W. J. G. Dawson, Eldridge. On Wednesday night this committee reported with its various recommendations. The most important matter before the Society, the continuance of the plan for malpractice defense, which was inaugurated by the Council July 1st, 1909, was approved and continued permanently. Other details of the meeting will be reported in full in the June JOURNAL.

Santa Barbara was selected as the place for the next meeting, and the following officers were elected:

President, Jno. C. King, Banning; First Vice-President, A. B. Grosse, San Francisco; Second Vice-President, J. Henry Barbat, San Francisco; Secretary, Philip Mills Jones; Council, Second District, Geo. H. Kress, Los Angeles; Sixth District, C. G. Kenyon; Eighth District, Jas. H. Parkinson; At Large, F. M. Pottenger.

## ORIGINAL ARTICLES

# A CASE OF LEPROSY IN SAN FRANCISCO PREVIOUSLY UNDISCOVERED.*

By WILLIAM FITCH CHENEY, M. D., San Francisco.

A boy came to the Medical Clinic of Cooper Medical College, January 29, 1910, complaining of swelling in his face, hands and feet, and of sores on his legs. The condition resembled one of myxedema, and he was sent into the ward of Lane Hospital with that as the probable diagnosis. At the hospital the following history was elicited:

*Family History.* He said his parents were both living and well, but we were never able to see or examine them. He had had fifteen brothers and sisters, of whom ten were living and well, the others dying in infancy. While he was in the hospital one of his brothers came to see him, and although we had no opportunity to examine this brother, his facial appearance was observed to be very much like that of the patient.

*Past History.* The boy was 18 years old. He was born in Mazatlan, Mexico, and had lived there until he was seven, then coming to San Francisco with his parents, where he had lived continuously ever since. Since he was ten he had worked in an art glass factory, until recently his illness had incapacitated him. The patient always had good health until three years before presenting himself. He never used alcohol or tobacco and denied all venereal infection.

*Present Illness.* Three years before the boy began to feel tired and lazy and lost all ambition for work. He noticed that whenever he perspired, his face would become covered here and there with red spots, which would remain for an hour or two before fading away. Two years ago his right shin developed running sores and became swollen. A little later the left shin acquired the same condition. These sores would partly heal and then would relapse and had never entirely disappeared since they began. About this same time his face and hands became swollen and had remained so ever since. At times his face seemed to be more swollen than at others. His fingers felt stiff and clumsy, and this had finally made him unable to do his work. His hair had become very dry and thin, and his eyebrows and eyelashes had gradually fallen out. His appetite was good and he had gained about twelve pounds in weight during the three years of his illness.

*Physical Examination.* The patient's face (see Fig. 1) appeared swollen and puffy, so that his eyes were small and his malar prominences exaggerated. There were no eyebrows present and no eyelashes. Although the subcutaneous tissues appeared edematous, there was no pitting on pressure. The nose was flat and broad, the nostrils and upper lip red and inflamed. The lips were thick and everted, but showed no lesions. The lobes of the ears were likewise thick and apparently swollen. The tongue was clean; the teeth regular and showed no Hutchinson abnormality; the gums showed a yellowish discharge along the junction with the teeth and bled easily on pressure, but were not swollen or spongy. The pharynx showed no abnormality. The hair over the scalp was dry and the scalp showed thick scales of dandruff. The neck showed no enlarged cervical glands. There was no visible or palpable abnormality in the thyroid. The hands were apparently swollen, but did not pit on pressure. They were short, broad, stubby, and the normal contour on dorsum and palm was entirely destroyed. The fingers were thick, clumsy and stiff. The skin over them, as over the rest of the body, was dry, scaly and glistening.

Figure 1.

There was no abnormality in contour of the chest, the sides moved equally, there was no percussion dullness over either lung, anteriorly or posteriorly, and the breath sounds were normal throughout. The heart showed a diffuse impulse, visible in the second, third, fourth and fifth intercostal spaces, between the sternum and the nipple line; the left border of dullness was found in the nipple line, the right border at the right border of the sternum, the upper border at the upper border of the third rib; a systolic murmur was heard at all parts of the heart, but loudest at the base, over the pulmonic area; the second sound was everywhere clear.

The abdomen showed no abnormality in contour. The liver dullness measured 9 centimetres in the nipple line. The spleen was decidedly enlarged, its area of dullness in the anterior axillary line measuring 13 centimetres and its lower edge being distinctly palpable 3 c.m. below the costal margin. The abdomen otherwise was negative.

Genitalia. There was no pubic hair present. The penis and testicles were small, undeveloped and infantile in type.

* Read before the Cooper College Science Club, February, 1910.

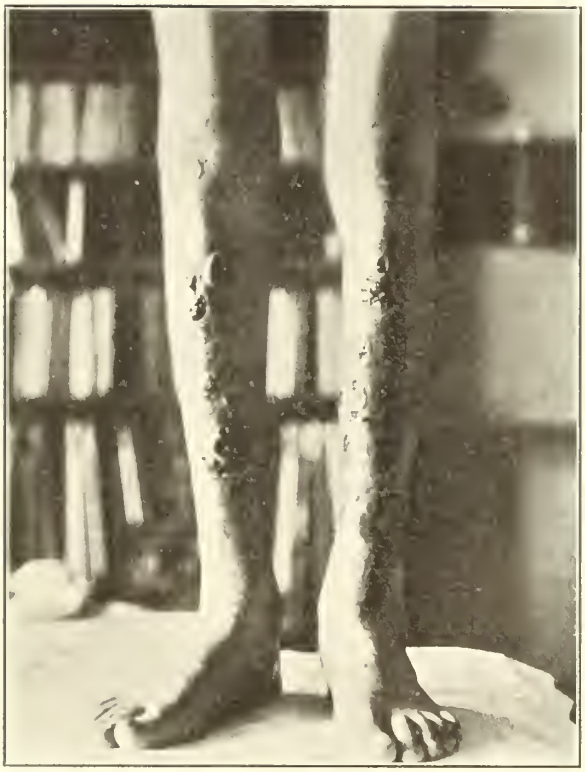

Figure 2.

Lower Extremities. (See Fig. 2.) Over the right leg, between knee and ankle, were numerous ulcerations with granulating base; about the knee were several scars of healed lesions, one the size of a dime, comparatively recent, purplish red in color; other smaller scars, evidently older, were white; the fresh ulcers were particularly along the crest of the tibia and the skin between them was everywhere scaly, covered with crusts and showed remnants of an ointment recently applied; one of the ulcers was as large as a quarter dollar, but most about the size of a dime; all the fresh ulcers showed exuberant granulations and all seemed exquisitely tender. The left leg showed a condition very similar to that of the right, with numerous fresh ulcerations and healed scars of older ones, all lying along the tibial crest and about the internal and external malleoli. The feet appeared swollen and thickened like the hands, but showed no edema and no ulcerations.

Nervous System. There was no loss of superficial or deep reflexes; no anesthetic areas could be found anywhere over the body; there was no loss of power; and there was no pain except when the ulcers were touched.

*Diagnosis.* With such subjective and objective evidence the interpretation of its meaning presented only three possibilities: myxedema, syphilis, and leprosy. In favor of myxedema was the appearance of the face and hands, which seemed almost diagnostic; the dry scaly skin and scanty hair; and the condition of infantilism, both physical and mental. But at the first examination it was clear that the case must nevertheless be something more than myxedema, because of the enlarged spleen and the ulcers on the legs, for which atrophy of the thyroid gland could in no way account. As regards syphilis, the ulcers along the tibiæ appeared characteristic of the disease, and there was a positive Wasserman reaction to give further support to such a diagnosis. But there was no history of primary or secondary lesions; no marks were found to speak for such previous lesions; no spirochetæ could be found in scrapings from the leg ulcers; and syphilis would not explain the remarkable appearance of the face and hands. In favor of the diagnosis of leprosy, the facial appearance of leontiasis, the absence of eyebrows and eyelashes, the red and irritated nostrils and upper lip, the rough, dry and scaly skin, the enlarged spleen, the infantile genitalia and lack of pubic and axillary hair, the chronic ulcerations on the legs—all spoke most positively. The Wasserman reaction was not inconsistent with leprosy, for it may be found in this disease as well as in syphilis. Finally, smears from the nasal secretion showed lepra bacilli in abundance and by this means the positive diagnosis was made.

With the diagnosis thus definitely proven, some other findings during the observation and study of the case become of interest. The body temperature showed a range from 98° each morning to 99° or 99.8° each afternoon, a low grade of fever such as would be expected with a chronic infection. The blood showed: hemoglobin 60 per cent; red corpuscles 5,000,000; white corpuscles, 16,000; polymorphonuclears 65 per cent, small mononuclears 20, large mononuclears 2, Eosinophiles 12, basophiles 1; another count made several days afterwards by a different observer gave practically the same figures. The urine always showed a light cloud of albumen, with a few pus corpuscles and transitional epithelial cells; but no casts and no blood. X-ray plates showed a normal condition of the bones in hands and feet.

The report from the Nose and Throat Clinic on the patient's condition was as follows: "Pharynx normal; tonsils small, irregular, buried; nasopharynx shows a small adenoid, partly blocking both sides; posterior end of both turbinates large; on right side, passage is small but open; on left side, passage is entirely blocked; mucous membrane of posterior nares is clean, of good color and shows no ulceration; anterior nares blocked with blood clots; no perforation of septum; on both sides of the septum the mucous membrane is roughened, either from ulceration or crusting; the middle and superior turbinates on the left side are practically gone; the middle turbinate on the right side is nearly gone; the inferior turbinates are hypertrophied; no evidence of active ulceration."

As soon as the diagnosis of leprosy was made, the boy was sent to the Detention Hospital, where he now makes his home with others of his kind, under the care of the city.

### Discussion.

Dr. D. W. Montgomery, discussing:

There are several interesting points about this case. One is the occurrence of that preliminary mottled erythema of the face. These preliminary erythemas are very interesting in leprosy. They may precede by a long time the outburst of the more serious forms of the disease. Sometimes, I believe, they constitute the whole extent of the leprosy. That is to say, a man will get an erythematous lepride and stop at that. This erythematous lepride sometimes consists of only one spot. I recall, in this regard, a young man who had but two spots of erythema,—one an anesthetic area on the cheek, and another raised, red anesthetic spot on the right forearm. From the spot on the right forearm there developed an infiltration of a nerve; the infiltration extending, as is usual in leprosy, from the periphery toward the center. This infiltrated nerve cord was one of the branches of the radial nerve, and was whipcord-like and somewhat nodular. That boy was given salol for a long time and the symptoms decreased; it would not be surprising if they had disappeared entirely. One of the Bint boys had this form of erythema only. The boy is living and well to-day, and that was eighteen or nineteen years ago. His mother had an erythematous lepride of the face, and that was all she ever manifested. In the Chinese quarters of the Almshouse a few years ago they often gave the history of an erythematous lepride long preceding the outbreak of the more serious forms of the disease. There is, sometimes, in some cases, a generalized erythematous eruption all over the body, simulating an urticaria. That was exemplified in a Swede in the Almshouse who got his leprosy in the Hawaiian Islands, and then went back to Portland, and from there to Paso Robles, to get rid of a supposed urticaria, which turned out to be a lepride. There were "peacock eyes" all over the skin. He looked as if he had been tatooed.

The infection or inoculation of leprosy precedes usually, I am convinced, a long, long time the outbreak of symptoms that attract serious attention, and in the case in hand the fact that the patient came from Mazatlan is presumptive evidence that he got his disease there. It is more likely that he got it there than that he developed it here, although I know of a case where the disease developed here. This was the case of an Irish woman, the only case I know of where leprosy undoubtedly was acquired and developed in this city.

Among the Chinese there are frequent cases that have been quite a long time, often several years, in San Francisco before the disease develops, but in all those cases I have examined there was a previous residence in China, and therefore the possibility, even probability, that their malady really had its inception during their residence in China. All the Chinese whom I have examined on this point have come from the See Yup or Sam Yup villages on the right bank of the West River, where leprosy is prevalent. All of them, without exception, have come from that particular locality. They generally gave the history of having had some red spot that was dead, anesthetic, and then getting a solid edema, such as there is in this case, and after that the leprous nodules. The skin of the legs in lepers has a tendency to become smooth and to be cut up into lozenge-shape areas, and to become darkened and very thin, and easily lesionable, and these people can easily get an eczema or ulcers. That is explained by the lack of nutrition. That peculiarity of the legs is a very striking one. The soles also become dry.

Hansen has said that the ordinary quarantine established by the European in ordinary life is sufficient to prevent any inoculation whatever. The ordinary segregation of towels and washing is sufficient to form a barrier that the leprous infection cannot get over. The only country in the world where the better classes have leprosy is, I believe, Brazil. Very few of the Norwegian lepers who came to Minnesota transmitted the disease to their offspring; as soon as they got into better quarters, leprosy disappeared.

Dr. Alvarez: The confounding of myxedema and leprosy is certainly pardonable. It has been known for many years that the lesions of leprosy can sometimes be cleared up almost entirely with thyroid extract.

Walter Brinckerhoff has lately published the results of a careful examination of the nasal mucous membrane and secretions in some 407 Hawaiians. The investigation was taken in the hope that a means of earlier diagnosis might be found. He was disappointed, however, as the percentage of positive findings in early cases was very low. He and others have found acid-fast bacilli in the noses of non-leprous patients, so we must demand their presence in considerable numbers and characteristic grouping before a positive diagnosis is made. The suggestive Wasserman reaction in this case is not strange considering the several points of similarity in the infections granulomata. A large proportion of lepers react to tuberculin.

Dr. Oliver: I examined the sores in this case and was unable to find any lepra bacilli or spirochetae pallida present. The nasal discharge showed plenty of lepra bacilli which were quite characteristic in morphology. The Wasserman reaction was what we might call nearly positive; that is, there was a slight hemolysis. If these ulcers had been syphilitic the Wasserman would have been positive.

Dr. Herbert Gunn: Regarding what Dr. Alvarez has said concerning the Moro and Wasserman tests, tuberculosis and syphilis very frequently occur with leprosy. With regard to the skin lesions of the leg, I have seen them repeatedly and they usually start in with an eruption of bullae. The bullae appear and the lesions may then ulcerate, but generally dry up and disappear. Frequently, however, they go on to considerable ulceration; usually they are hypersensitive as in this case. So far as the boy having contracted the disease here, I should imagine that he got it in Mazatlan, because frequently cases do not develop for eight or nine years after infection. Furthermore this boy probably had symptoms for some time before attention was called to them. He probably had an erythematous eruption which may have occurred many years ago. The period of incubation would therefore not be over six or seven years. Dr. Clark asked a question with regard to the puffiness present here and the nodular appearance. Following the erythematous condition very frequently we have a thickening of the entire skin, so we have just this appearance of puffiness without there being any nodules present at all. In fact from his appearance I should not call him a case of nodular leprosy but a case of skin leprosy.

# HISTORY OF A LAWSUIT FOR ALLEGED MALPRACTICE.

By HENRY J. KREUTZMANN, M. D., San Francisco.

Customs and laws in every place,
Like a disease, an heirloom dread,
Still trail their course from race to race,
And furtively abroad they spread.
To nonsense, reason's self they turn,
Beneficence becomes a pest,
Woe unto thee, that thou'rt a grandson born!
As for the law born with us, unexpress'd;—
That law, alas, none careth to discern.
(Mephisto in Goethe's Faust.)

*Part II.*

*A Decision of the Supreme Court of California.*

Here is an exact reprint of the decision. S. F. No. 2424. In Banc. January 5, 1904:

SUPREME COURT DECISIONS.

S. F. No. 2424. In Banc. January 5, 1904.

A. H. BAILEY, JR., and HANNAH M. BAILEY, Plaintiffs and Appellants, v. HENRY KREUTZMANN, Defendant and Respondent.

Appeal from the Superior Court of the City and County of San Francisco—John Hunt, Judge.

For Appellants—J. J. Burt.

For Respondent—Loewy & Gutsch.

By the Court.

The defendant is a physician and surgeon, and as such he examined the plaintiff Hannah M. Bailey, and pronounced her ailment to be a cystic tumor of the ovary, and ordered her to a hospital where he proceeded to operate upon her for the said ailment. After an abdominal incision and careful inspection of the parts, he discovered that the ovaries were in reasonably good condition, and, finding the uterus enlarged, concluded that the patient was probably pregnant, and sewed up the incision The wound healed, and subsequent events proved that she was not pregnant at the time of the attempted operation. Thereafter the physicians and surgeons called as witnesses reached the conclusion, from the history of the case and all the circumstances surrounding it, that the patient's trouble was neither pregnancy nor an ovarian tumor, but was in fact a fibroid tumor of the uterus or something else nearly allied thereto. The patient and her husband brought this suit to recover $40,000 for the said alleged unskillful and negligent acts of defendant. The verdict and judgment being in defendant's favor, plaintiffs moved for a new trial, and bring this appeal from the order denying the motion.

1. Respondent makes the preliminary objection that the proposed statement on motion for new trial was not served in time, and therefore the court was warranted in denying the motion, because there was no proper record to base it on. But it appears that appellants made a motion in due form to be relieved from their failure to serve the statement in time upon the ground of excusable neglect. This motion was granted, and thereafter the statement was duly settled and certified by the court. It was clearly within the discretion of the court to do this. Banta v. Silla, 121 Cal., 414 In view of the trial court's order relieving appellants from their failure to serve the statement in time, we will not presume that the new trial was refused on the ground of any delay in the service of the proposed statement.

2. Many objections are urged by appellant, but we will discuss only those errors which seem to require a reversal of the order appealed from.

On the trial medical witnesses called by defendant as experts to prove that his treatment of Mrs. Bailey was neither negligent nor lacking in medical or surgical skill were allowed in response to questions by defendant's counsel and against the objection of plaintiffs that the same was incompetent and hearsay, to recite instances from medical reports and authors illustrating the difficulties which attend a diagnosis under the circumstances developed in the case of Mrs. Bailey. For instance, Doctor De Vecchi was permitted to say: "I refer to some reports in the Annals of Medicine, which prove the difficulty of making a diagnosis . . . Professor Reverding, of Geneva, who is considered one of the most eminent surgeons of Geneva, once examined a woman; he could not make a diagnosis, but he suspected pregnancy, which diagnosis he doubted after the absolute assertion of the woman that it was impossible that she should be pregnant. He sent the woman to a hospital in Geneva, where the physician, after a careful examination and questioning of the woman, decided to wait for a while, under suspicion of pregnancy, and after a month or two an abdominal opening was made, and they found a pregnant uterus of six months."

Another physician testified: "I think you will find it in a book. Spencer Wells, when asked what class of tumor he was dealing with in an operation he was about to perform, said: 'I have stopped guessing; I will tell you when I open the abdomen.' That was after he had performed one thousand operations. He was the greatest author on abdominal tumors." There were many more of these illustrations and recitals from standard authors, living and dead, but the above quotations are sufficient to illustrate the point. It has been held, without conflict and in an extended line of cases in this state, that medical works are hearsay and inadmissible in evidence except perhaps on cross-examination when a specific work may be referred to, it seems, to discredit a witness who has based his testimony upon it. People v. Wheeler, 50 Cal., 581; Gallagher v. Market Street Ry. Co., 67 Cal., 13; Lilly v. Parkinson, 91 Cal., 655. In People v. Goldenson, 76 Cal., at page 348, it is said: "Dr. Wolsey, one of the experts called by the defense, was asked to name the circumstances of the cases he had read where violence accompanied hysterical mania, and the court sustained an objection to the question. If allowed, the examination would have been in effect the introduction of medical works in evidence, and therefore it was properly rejected." It must be taken as the settled rule in this state that medical books are not admissible as evidence except in the instance already specified. If the books themselves are hearsay and inadmissible, certainly any recital of their contents or the substance thereof is none the less hearsay, and should be excluded for that reason. It is apparent that the plaintiff's case may have been materially prejudiced by the erroneous admission of this evidence.

3. At the request of respondent the court instructed the jury as follows: "The defendant in this action is not charged by the plaintiffs with any lack of general skill or competency as a physician and surgeon. This amounts to an admission, and you are bound to hold accordingly that the defendant was possessed of that ordinary medical and surgical knowledge and skill which the law requires him to possess; there being no degree other than that of ordinary knowledge and skill recognized by law as a standard or applicable as a measure of knowledge and skill in such cases."

This instruction was erroneous, and should not have been given. The plaintiff charged the defendant with negligence and want of skill in treating her, and should have been left to argue to the jury that the facts presented showed that the defendant was lacking in the skill usually possessed by a physician and surgeon.

The order appealed from is reversed.

The decision of the supreme court is final, we have to submit to it; but that does not mean that a

decision of the supreme court must be correct, free of error. A fair criticism is necessary for the development of medical jurisprudence. The gentlemen of the supreme court are not infallible. There are instances on record where the supreme court of California reversed itself. Courts of last resort are instituted not because we believe in their infallibility, but in order to exclude as much as possible error in the execution of the laws. It may justly be asked that a decision of the highest tribunal in the country, destined to go down to posterity as "authority," be strictly in conformity with the evidence furnished at the trial; that the language of it be clear; that the argumentation be logic. I shall point out in the following lines where in my opinion this supreme court decision does not come up to these requirements.

I have first to say a few words about the exposé, the narrative of the case by the supreme court. It is said there, "defendant . . . *ordered* her to a hospital . . ." There is no evidence in to show that I *ordered* Mrs. Bailey to a hospital. Physicians *advise* their patients to go to a hospital, and that is precisely what I did in this case.

When the abdomen was opened and everything exposed to view it did not require "careful inspection of the parts" to "discover" that the ovaries were not the seat of the trouble—I could see that at a glance. The words, "the ovaries were in reasonably good condition," or some similar words, are the language of plaintiffs' attorney, J. J. Burt; this man would ask every expert witness *usque ad nauseam* the same nonsensical question, "Suppose that the trouble is only an enlarged uterus, no matter by reason of a tumor or pregnancy; suppose that the uterus is uniformly rounded and is about the size of a child's head; and suppose that there is nothing the matter with the ovaries; should there be any difficulty in simply determining that that is an enlarged uterus?"

"Finding the uterus enlarged, concluded that the patient was probably pregnant." I have never stated that the woman was *probably pregnant;* I have given clear, concise testimony, not contradicted, that I could not positively say that this was not a pregnant uterus.

The sentence: "Thereafter the physicians . . . allied thereto," needs some explanation. A large number of physicians and surgeons were called as witnesses during the trial, "thereafter," and much contradictory testimony was given. Dr. Friedholfer and myself testified about Mrs. Bailey's condition at the first examination (under anesthesia); Mrs. Dr. Edson gave evidence of her "diagnosis" of Mrs. Bailey's trouble at about the same time. The evidence of these three physicians and surgeons was contradictory. At the time of operation Dr. Putnam and myself testified that we could not decide what that thing was, that the possibility of pregnancy could not be excluded; Mrs. Dr. Edson says she saw the patient shortly before the operation and swore that Mrs. Bailey had a fibroid of the uterus; here again contradictory evidence.

The physicians and surgeons called "thereafter" as witnesses by defendant had never examined Mrs. Bailey and could not and did not make any conclusions about her condition. The physicians and surgeons called by plaintiff "thereafter," that is, after the performance of the incision, and the healing, were Dr. Carl von Hoffman and some other man, whose name I have forgotten (he died since in an insane asylum); now these two men could not reasonably and did in fact not testify about the condition of the patient at time of first examination nor at time of operation. Neither "from the history of the case and all the circumstances surrounding it" could they possibly say what was present a year and more ago. But they were not even asked about *facts* other than what they found at their own examinations long after the operation; Mr. J. J. Burt asked them: "If the conditions, as you found them, were present at the time of examination under chloroform, or at the time of operation, was it easy or difficult to make the diagnosis of fibroid of the uterus?" This all-important question, "Was it easy or difficult to diagnose the trouble?" this question upon which everything was hinging in this case, on which the whole suit was based—this question is not touched upon with a single, solitary word in the exposé by the supreme court.

The suit was not brought to recover $40,000 for "the said alleged unskillful and negligent acts of defendant," but suit was brought to get $40,000 for damage which it was alleged was done to plaintiff through "alleged unskillful and negligent acts"; the alleged damage consisted in "mental worry and anguish before operation and pain and suffering after operation."

Ad. 1—Motion for a new trial was based on the ground that "the evidence did not justify the verdict"; besides, as usual, a number of alleged errors of ruling by the presiding judge were thrown in. The *law* requires that within twenty days the necessary papers must be filed with the court. Ten days' additional time was added by request of plaintiff's lawyer through professional courtesy of defendant's counsel. Aboslutely nothing was done during all this time. According to *law* the case was out of court, dead at the expiration of the thirty days. After some time plaintiff's attorney went before Judge Hunt and asked for relief from failure to file the papers in the time prescribed by *law,* on the ground of "excusable neglect," alleging besides that an oral agreement was made with defendant's counsel for further delay. Dr. Gutsch in an affidavit flatly contradicts any such allegation, but Judge Hunt allowed Mr. J. J. Burt to file the papers and to bring in his motion for a new trial. Judge Hunt thus revived the dead issue, compelling defendant to spend hundreds of dollars more, by an arbitrary act neglecting or setting aside the *law* in the premises. It was expected that the supreme court would insist on the strict observation of the *law.* But the supreme court says that it was "within the discretion" of the trial judge to act as he did. That another judge in another case likewise neglected the observation of the *law* does not

appear, to a lay mind, as a justification: two wrongs make no right!

Ad. 2—The contents of the second paragraph of the decision are of greatest interest to the medical profession, since here the somewhat tangled and perplexing question of medical expert testimony is taken up, discussed and an attempt made to throw some light on this matter. If we read this paragraph carefully we must say that the law is well laid down here:

1—"Medical books are not admissible as evidence; are hearsay."

2—"Any recital of their contents or the substance thereof is none the less hearsay and should be excluded."

This matter was fully discussed and well understood at the trial. The question is, What is the recital of the contents of a book? The supreme court illustrates this point very well by quoting decision in *People* vs. *Goldenson*. "Dr. Wolsey was asked to name the circumstances of the cases *he had read.*" It may reasonably be said that a person can recite a book or the contents of a book only after having read it, as in Dr. Wolsey's case. No books were admitted in the trial of the suit *Bailey* vs. *Kreutzmann*. No recital of a book or its contents was likewise admitted in this trial. Dr. de Vecchi has not stated that he *read* Professor Reverdin's case in a book; it is left undecided whether Dr. de Vecchi was not present at the clinic of Professor Reverdin while this case was observed, or whether Professor Reverdin related the case to him and that this case has since become a matter of history. But it is perfectly evident that Dr. de Vecchi had knowledge of this case and of other similar cases and from the vast amount of his knowledge he was drawing while giving testimony. Unfortunately he used the expression "Annales of Medicine," by which is meant History of Medicine; the supreme court apparently mistakes Annales of Medicine for a medical book.

Dr. Thorne did not start his testimony with the remark, "I think you will find it in a book," as printed in the decision. Dr. Thorne gave testimony and when he was through he said, answering some remark by plaintiff's counsel, "I think you will find it in a book." Dr. Thorne did not say *that he read it in a book*. His very last words, "I think you will find it in a book," show conclusively that his knowledge of what he said was not from *reading a book;* probably Dr. Thorne was present when Spencer Wells made that remark; possibly it was printed. Like Dr. de Vecchi, Dr. Thorne draws from his large knowledge and gives this testimony on his own authority. To interpret the words, "I think you will find it in a book," as reciting the contents of a book must appear to stretch a point rather violently. Not one of the other medical gentlemen gave evidence of any case that he *had read in a book*.

From the fact that the supreme court excludes testimony which is not recital of a book; from the stress that is laid by the supreme court on "hearsay," it seems as if the supreme court goes beyond books and recital of contents of books in excluding medical testimony. The supreme court seems to uphold the general rule of hearsay also in the case of medical expert testimony; that is, only such evidence is admissible which is gained by observation of facts with one's own senses of perception. Anything that is not as a fact known by own observation to the medical expert must be excluded as hearsay. If this ruling should obtain, medical expert testimony other than about facts of the case will be an impossibility.

How do we acquire our knowledge and become experts? We are not able by any means during the time of our study to acquaint ourselves personally with every fact in anatomy; few of us have dissected or even seen every muscle, ligament, fascia, nerve, artery, etc., in the human body; not to speak of physiology and pathology. We have learned from books and from lectures of our teachers to a great extent. The same holds good in pharmacology, medicine, surgery, obstetrics. We learn many things from books and lectures; the action of drugs, diseases, their treatment, without ever having witnessed any of the diseases or their treatment, or the action of the drugs. Later we add constantly to our knowledge by reading books and periodicals, by visiting meetings of medical men and listening to papers and discussions, by traveling, seeing and hearing the masters of our art. In this way we acquire a large stock of knowledge of things we have not with necessity seen ourselves. We are ready to make use of this knowledge in our practice whenever occasion arises; in many instances we do not know any more from where we have the knowledge. If asked we might say, "I think you will find it in a book." Now, when we are on the witness-stand are we not allowed to draw from this our knowledge? According to this decision of the supreme court: No! The result of such ruling is that the testimony of educated men, real experts like Dr. de Vecchi and Dr. Thorne is not admitted.

In conjunction with this matter of expert testimony, I wish to call attention to some practices of the courts, sanctioned by the supreme court: Any physician who holds a license to practice medicine in California becomes *eo ipso* a medical expert before the law; a physician may, while at college, never have witnessed, never have handled a case of confinement, but as soon as he has the license he becomes an expert in obstetrics; his testimony is expert testimony before the law. And so it comes about that an ignorant pretender, who never performed any gynecological operation, is an expert in gynecology before the law and her testimony is admitted as expert testimony.

That the question of what is admissible as medical expert evidence and what not is not quite clear to the lawyers who compose the supreme court of California, becomes evident when we read in the decision the following sentence: "Medical works are hearsay and inadmissible in evidence *except perhaps in cross-examination when a specific work*

*may be referred to, it seems, to discredit a witness who has based his testimony upon it."* To base one's testimony on a book can only be done by reciting the contents or substance of it, and that is inadmissible. If the recital of the contents of a book cannot be admitted, then there is no need to contradict it by evidence that is inadmissible.

One point must be mentioned yet in this decision. Plaintiff's counsel had pinned his faith for an appeal entirely and almost exclusively on the alleged fact that the evidence did not justify the verdict. Hundreds of pages of testimony were printed for use of the supreme court. Almost all of this big book was taken up with testimony bearing on the case; a few pages were devoted to alleged errors of the trial judge; the two briefs for the supreme court were likewise almost entirely given to argumentation of the merit of the case. The supreme court of California ignores absolutely the strenuous appeals of J. J. Burt, plaintiff's counsel, to consider "the merits" of the case—instead it devotes its whole energy to technicalities.

Ad. 3—The language of this paragraph is incomprehensible to me; at no time during the trial was defendant's general skill and care questioned. Much was made by plaintiff's lawyer during the trial of the alleged fact that this simple, plain physician, Mrs. Edson, without the use of anesthetic, without the use of instruments, made the correct diagnosis, whereas the skillful physician, defendant, erred in this particular case.

I have written up this case to arouse interest in the ranks of our profession for legal medicine. We are altogether too much absorbed in ultra-scientific work, and too busy in reporting cases or series of cases of difficult operations, of latest treatments, etc. But we are acting like the proverbial ostrich in vital questions of medical jurisprudence; these questions do not seem to exist for us. I hope I have contributed a mite to arouse some interest in the matter.

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## PROSECUTION OF ILLEGAL PRACTITIONERS.*

By J. A. CRAWSHAW, M. D., Hanford.

In taking up the subject of the prosecution of illegal practitioners it will not be my purpose to furnish you with the law governing this offense, as it does not fall within the scope of this paper; besides the law being so plain that any one who reads it is able to understand it, makes the quoting of it superfluous.

The object I have in mind is to present before this body of intelligent men, a number of facts that I have been able to gather from various sources which I am sure should arouse us from our slumbers, and cause us as representatives of a noble and glorious profession to become more active in protecting our profession and fellow man from the onslaught of the illegal practitioner who uses us and our achievements to carry on his graft to fatten his purse and submerge the medical profession in ridicule by exploiting his newly discovered process of healing or the inheritance of seven generations. If the illegal practitioner has chosen the medical profession as his scapegoat by which he can increase his dollars and cents, he can go to most any extent to perfect the fruition of his desires with the maximum amount of assurance that he will not be molested by the medical profession under their present state of activity. If he is molested he is assured that he has the sympathy of the people, and is a much persecuted man because of jealousy on the part of the medical profession. This state of affairs is a serious one and unless obliterated will be a serious detriment to those who have to conform to both the spirit and letter of the law.

When the act to regulate the practice of medicine was enacted a board of medical examiners was created whose duties are specially defined. You will find it the duty of the board to prosecute all illegal practitioners and the fine when collected shall be paid into the state treasury to constitute a special fund for the prosecution of illegal practitioners. Also that the board on or before the first day of January of each year shall transmit to the Governor a full report of all its proceedings together with a report of its receipts and disbursements. Both of these duties have been sorely neglected as I hope to be able to show as we continue.

In regard to this first duty I am going to relate my experience with the board of examiners which I believe is a fair sample of their activity in the prosecution of illegal practitioners. On the 30th of July I wrote Dr. Tisdale the following letter:

Hanford, Cal., July 30, 1909.

Dear Doctor:—

I wish to call your attention to a breach in the law governing the practice of medicine that has existed here in Hanford for the last two years.

One L. T. Sue, a Chinese doctor, has been operating in Hanford, and has no credentials or authority to do so.

Also Dr. Muriami, a Japanese, who operates under the wing of a M. D. here in Hanford. I have learned that this man writes prescriptions for patients, signs his name under the name of a regular licensed physician. These prescriptions are filled at the various drug stores in Hanford. This work has existed for one or more years. If you wish me to be of any service to you I will be glad to collect any proof you ask me to. Trusting you will see that all must comply with the law, I close.

Yours respect.,

J. A. CRAWSHAW.

To this letter I received no reply whatever. About Aug. 10th I wrote to Dr. Tisdale telling him that I expected the courtesy of a reply to my letters and I would like to see as much interest shown in this matter by the state board as they showed in me when I had given a few anaesthetics for the doctors of Hanford before I had passed the medical examination. This brought the following reply from Dr. Tisdale:

* Read before the San Joaquin Valley Medical Society, March 8, 1910.

San Francisco, Cal., Aug. 17, 1909.

Dr. J. A. Crawshaw,
Hanford, Cal.

Dear Doctor:—

Your favor just received. Will say in reply that we are writing to the medical societies of the various counties in Cal., advising them to institute proceedings against illegal practitioners. Therefore any assistance you may be able to render to your county society will be of great value in the cases mentioned.

Yours truly,
CHAS. TISDALE, Sect.

It would be very nice indeed to throw the burden of prosecuting these violations of the law upon the shoulders of those not prescribed by law to perform this duty; however, it becomes necessary at times for the medical profession either individually or collectively to protect the rights invested to us by the laws governing the practice of medicine. On the 5th day of November I swore to a complaint against L. T. Sue for practicing medicine without a license. A subpoena was sent to San Francisco to be served on Dr. Tisdale to appear as witness at the trial. It was returned unserved accompanied by a letter stating that the sheriff had seen Dr. Tisdale and found that he did not live in San Francisco, but in Alameda, therefore the subpoena could not be served. This was an unlawful excuse, as all present here know that a subpoena can be served on a party wherever they may be found. I suppose Dr. Tisdale and the sheriff must have come to some mutual understanding, as the case was to be tried the day before Thanksgiving and Dr. Tisdale, like the rest of us, is not immuned to taste of turkey. The trial was postponed until Dec. 5th. Another subpoena was sent to be served on Dr. Tisdale, but this time at Alameda. This summons was returned served. Dr. Tisdale ignored the summons and was not present at the trial.

After the trial I wrote another letter to Dr. Tisdale, telling him of the conviction of the Chinaman, and asking him for advice should the defendant continue to practice.

I did not receive any reply whatever from Dr. Tisdale, nor neither have I since then, but on Dec. 15 Dr. Phillip Mills Jones wrote me the following letter:

San Francisco, Cal., Dec. 15, 1909.

Dr. J. A. Crawshaw,
Hanford, Cal.

Dear Doctor:—

Your letter to Dr. Tisdale is before me, as I am the Assistant Secretary of the Board. I am delighted to know that you got a conviction in the case of the Chinese doctor in your vicinity. The Board at the last meeting appointed an attorney to take the whole question of prosecuting violations of the law, and I will turn your letter over to him at once. We will give you all assistance possible.

Cordially yours,
PHILLIP MILLS JONES, Sect.

I waited patiently to hear from their attorney while the Chinaman continued to practice. On Jan. 10 I wrote Dr. Jones again, telling him that I had not heard from their attorney; also that the board was not taking the part in prosecuting this case as was expected of it. This being plainly demonstrated by their manner of corresponding, as a part of my letters had been ignored, others had been transferred for another party to answer, and that I intended to go ahead with this case and then report to the medical society my success and how obtained.

In answer to my letter I received a letter from their Attorney, W. W. Kaufman, stating that he had been so busy prosecuting and convicting an illegal practitioner that he had neglected to answer my letter. Also that the Board was without funds to prosecute these cases, and that it was up to the district attorney to prosecute these cases when brought to his attention. But if I knew of any lawyer, preferably a young lawyer, who would be willing to take a chance in getting his fee either by the fine collected or by a special appropriation from the Legislature, to show this letter to him and ask the lawyer to communicate with him.

Just think of it, a lawyer who would be willing to take a chance on getting his fees from fines that by law must be turned into the state treasury or wait for the state legislature to make an appropriation to the Board of Examiners before he could receive his compensation! You can readily see that this would be an extraordinary method of doing business; also the caliber of the lawyer who would be willing to put in his time studying and working up a case whose prospects for compensation are as shady as this.

I also received a letter from Dr. Jones which reads as follows:

San Francisco, Cal., Jan. 12, 1910.

Dr. J. A. Crawshaw,
Hanford, Cal.

Dear Doctor:—

Replying to your letter of the 10th inst. I beg to advise you that our Attorney, W. W. Kaufman, has been very busy for some weeks past in the preparation and trial for us of a most important case and doubtless that is the reason why your communications were overlooked.

It may seem to you that we are very dilatory in not taking up the active prosecution of illegal practitioners in all parts of the state, but if you will stop and think about it, you will realize what an enormous undertaking it is. We are preparing our machinery to do this work but it will be some months before we can extend operations very much about the state. In your particular case I will again ask our attorney to look over the correspondence and advise you in the matter.

I have answered your letters and not Dr. Tisdale, for the reason that I am Assistant Secretary of the Board of Examiners, and I am here every day, while Dr. Tisdale comes only twice a week, and leaves a good deal of this work to my particular attention. Please do not think it any way a neglect on Dr. Tisdale's part; he does not refuse to answer your

letters, but I answer them for him. If you wish a personal letter from Dr. Tisdale, he will undoubtedly write to you. As I understand the case against the Chinaman Sue, he was arrested, prosecuted by the District Attorney, tried and convicted. Did he appeal this case to the Supreme Court, or to what court did he appeal it? If he took the case on appeal nothing can be done until that trial is held.

Please let me know at your convenience. You may have given this information in a previous letter but I have given all of your correspondence to our Attorney and so do not have it at hand.

Cordially yours,

JONES, Sect.

I readily saw that it would be a much harder task to get the state board, as well as my local brother practitioners active in the prosecution of this case than it would be to prosecute the Chinaman, therefore, I consulted the District Attorney in regard to the best possible way to perfect a few complaints. With his advice I procured the service of three young men to call on the Chinaman and take treatment from him. This they did and swore to as many complaints. I also hired Attorney Dyar to assist District Attorney Irwin in the prosecution of the Chinaman. It was locally known that Mr. Dyar had been engaged by, and represented the State Board of Examiners in these cases but such was not the case as I paid him for his service as I did the three complaining witnesses.

When the Chinaman was arrested his diary and a few prescriptions were confiscated, which showed for the ten preceding days he had waited on three hundred and fifty patients, mostly from Selma, Fresno, Fowler and Oleander. The patients on hearing of his arrest subscribed one thousand dollars as a defense fund and engaged Senator Cartwright to defend the chink. He was tried Feb. 16 and was acquitted, which was a surprise to those who heard the testimony given in the case. Our surprise was still more increased when it was established that at least one of the jurymen had taken some member of his family to the Chinaman to be treated. With these facts you can see the utter impossibility of a conviction in this case.

At the writing of this paper nothing more has been done except that the Chinaman is practicing in bolder defiance to the law than ever before. The District Attorney tells me that he is going to keep after him until he succeeds in convicting him or makes it so unpleasant for him that he will make his headquarters elsewhere. This we trust he will do, but before such a feat is accomplished it will be necessary for the medical profession as a whole to stand up for the rights which is offered it by the law of California, and to show to the people that our spinal columns are composed of the hardest compact bony tissue, and not the flexible cartilaginous substance, that will readily bend or mold to the layman's idea of what constitutes the practice of medicine.

In regard to the Board of Examiners reporting to the Governor on or before the first day of January of each year of all its proceedings, together with a report of its receipts and disbursements, the following will show you how prompt and active the Board has performed this duty. On Feb. 10th I wrote a letter to State Treasurer Williams asking the following questions:

Can you tell me how many fines were turned into the state treasury resulting from the conviction of illegal practitioners during the year 1909? Can you tell me the amount in each case? Can you tell me the amount of money paid into the state treasury by the Board last year? Can you tell me how much of the special fund for the prosecution of illegal practitioners is in the treasury at present? How many times during 1909 did the Board draw money from the treasury?

To my letter Mr. Williams wrote me the following reply:

Sacramento, Cal., Feb. 14, 1910.

J. A. Crawshaw, M. D.
Hanford, Cal.

Dear Sir:—

Yours of the 10th inst. at hand. After carefully looking over the records of the State Controller's office I find that so far no report has been made by the State Board of Medical Examiners since early in 1908. The Controller's office has tried repeatedly to get completer reports from said Board, but without success. Therefore, I would advise you to communicate with Dr. C. L. Tisdale, Secretary of the State Board of Examiners, Room 927 Butler Bldg., San Francisco, Cal., from whom no doubt you will be able to get the necessary information.

Trusting that you will be able to get the information that you desire, I remain

Yours very truly,

W. R. WILLIAMS, State Treasurer.

On Feb. 8th, I wrote Dr. Jones asking him how many candidates took the examination in 1909? How many failed? How many illegal practitioners were prosecuted by the Board in 1909? How many convictions resulted and how many jail sentences?

To which I received the following reply:

San Francisco, Feb. 10th, 1909.

Dr. J. A. Crawshaw,
Hanford, Cal.

Dear Doctor:—

Your letter of the 8th inst., I find upon my return to S. F. In regard to the number of candidates who presented themselves before the State Board in 1909. In Dec., 97 applicants, 31 failed; in Aug. 139 applicants, 49 failed; April 71 applicants, 23 failed.

In regard to the prosecution of illegal practitioners, nothing was done in this connection by the Board of Examiners last year. The Board was absolutely without funds to do the work, consequently, there were no convictions and no jail sentences.

In some parts of the state the local medical

societies undertook the prosecution of illegal practitioners with more or less success. This was particularly noticeable in Sacramento where several convictions were secured and a number of men were run out of town. Last week the Board of Examiners started in to prosecute or rather to get evidence against illegal practitioners here in San Francisco. We are trying to get a system for going after this work and when it shall have been perfected here, we shall extend the work to various parts of the state. It is impossible to begin it all over the state at once.

Cordially yours,

PHILLIP MILLS JONES, Sect.

Gentlemen, you will see that the Board of Examiners have been very active, in fact hyperactive along certain lines, and hypoactive in matters more important to the medical profession. Dr. Jones' report tells us that one in every three candidates coming before the Board in 1909 failed, thirty-three and one-third per cent, if you please. All those who failed conformed to every requirement of the law, where it was possible for them to do so. They had furnished documentary evidence of their preliminary education, which must be satisfactory to the Board. They had spent the necessary time in a recognized medical college, and presented their diplomas as testimony thereto, but they failed to convince the Board that they were entitled to the rights for which they had prepared themselves. These unfortunate gentlemen have either been compelled to leave the state or prepare for and take up some other vocation in order to have a decent existence, while some vendor or quack has been permitted to practice unmolested in the same town or city and may be next door to some member of the Board of Examiners.

Fellow practitioners, we have got to get busy each and every one of us, if we receive the protection we are assured. If we can't depend on this Board to perform the duty of prosecuting offenders of the medical act, then we should see to it that we are represented by a more active body. This Board tells us that they did not prosecute a single case in 1909; that is not saying that there were none to be prosecuted. Why, Fer-Don has been all over the state advertising in nearly every newspaper, and so far as I have been able to learn he has never been approached, except when N. B. Harris was working with the Los Angeles Board of Health, told Fer-Don that he was going to prosecute him if he did not get out of town. Then Jim employed a licensed physician so that he might be able to carry on his graft.

In every San Francisco or Los Angeles newspaper will be found the advertisements of several Chinese doctors, none of whom have complied with the medical law of this state. The Board has never molested a single one of these Chinamen so far as I have been able to learn. It cannot be because their attention has not been called to it, as they are obliged to see their signs as they pass along the streets, or see their pictures when they chance to look into a city paper.

If the medical law can't be enforced, why have it? I would much rather practice by the side of a man who has had a medical education and had failed to pass this Board's examination, than to be legally classified with one of these Orientals with his "roots and yarbs."

The Board tells us that they are without funds; I suppose they have always been as they have never shown very much activity in prosecuting these cases. The supposition is that they will continue to be in the same condition as their source of revenue will be the same as it has been the whole life of the board. I find that the board received from candidates alone in 1909, seven thousand six hundred and seventy-five dollars. Of this amount the Secretary receives not more than twelve hundred dollars per annum. The other members receive ten dollars per day when the board is in session. The board meets three times in each year, making a total of nine days that the board is in session for one year's work. Thus the other members of the board receive nine hundred and ninety dollars while in actual service in the discharge of official duties. At the discretion of the board they may add to said sums necessary traveling expenses. This, no doubt, they have done.

All money in excess to the actual expenses of the Board shall be paid annually into the state treasury. They have no money in the treasury at present, and they have not paid any into the state treasury for at least two years. We are entitled to be in closer relation with the board and its transactions than we have been in the past, and it is up to the medical practitioners to see that the board performs the duties intended it by the law. It was never the intention of the makers of the law that the Board of Examiners should make the flunking of candidates a specialty, but to see that the public is not buncoed by the oily tongue of the medical imposter. This is the gravest of all medical offenses, because with it goes all other violations of the law. Little thought was given to the graduates of the recognized medical colleges, for most of them make law-abiding citizens and a useful addition to the community in which they live, as well as worthy members to our profession. It was intended that the power to authorize prosecution should be invested in this board. No individual doctor wishes the responsibility that goes with these cases, for there is always a certain amount of reflection and notoriety attached with them. The doctors individually are partially to blame for the condition we have to-day. They will suffer their rights to be encroached upon rather than make an outcry.

While prosecuting the Chinaman in Hanford, not one of my fellow practitioners volunteered to help shoulder the burden of protecting our rights, until the Chinaman was acquitted, then a few offered to furnish their portion of a fund to secure the service of an able lawyer in the case. You will find the same condition in your town, gentlemen, should you institute a suit for the same offense. We have got to work as a unit in this matter, and have the present law enforced if we do not want it to die of hypostatic congestion. We should insist that our voices be recognized when we notify the board of an

offense committed, if not heard then let a committee inform the Governor of their methods, and I am sure we will get action or a new board.

If the Board of Examiners is not a paying organization, then why have it? Why not do away with it and invest the State Board of Health with the power to examine candidates wishing to obtain a license in this state? In this way we might become economical enough to create a fund to prosecute these cases with, or if the present board will demonstrate to us that they are willing to perform this duty and the funds are not sufficient, which they receive for this work, then I am willing to donate my part to create a protective fund. But, gentlemen, I am going to be hard to convince that it takes seven or eight thousand dollars annually to pass on the candidates coming before this board.

Now if you, gentlemen, find this matter of sufficient importance to be worthy of any consideration whatever, then let us as representatives of the medical profession see that the principal purpose of the medical act is satisfied.

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## A CASE OF TUMOR OF THE MEDULLA OBLONGATA.*

By L. NEWMARK, M. D., and MILTON B. LENNON, M. D., San Francisco.

In August, 1906, Dr. W. F. Cheney first gave one of us an opportunity to examine the patient, a boy sixteen years old. At that time the boy declared that he had no pain at all, and indeed he appeared quite at ease and was even inclined to be merry. He staggered when walking, had a cerebellar gait, lurched frequently to the right, and there was a decided ataxic fling of the right foot. But of these disturbances, when they were adverted to, he professed to be unconscious.

There was marked nystagmus when he looked in any direction; it was most pronounced when he looked to the left. There was no paresis of any of the ocular muscles. The vessels of the optic discs were full, but there was no decided papillitis at the time. (The boy observed that he could not see well after dark.) The soft palate was not raised well when he said "Ah," but the left side was raised more than the right. At times he had had difficulty in swallowing, but at this time he had no complaint in that respect. There were no other disturbances in the functions of motor or sensory cranial nerves. (There is no note regarding the sense of taste.)

The movements of the right hand were plainly ataxic; the sense of position of the fingers was defective and there was astereognosis. The functions of the left hand were normal. Motor power in the right hand was not distinctly diminished. Nor was it in either of the lower extremities. The ataxia of the right foot when walking has already been mentioned; but when he touched either knee with the opposite heel or described a circle in the air with either foot, while recumbent, no inco-ordination appeared. The sense of passive movement or posture in the big toe was normally keen on the right as well as on the left.

Sensibility in its other modes was unimpaired in the lower extremities, except that the right sole was a little more ticklish than the left. To stroking of the sole there was a somewhat livelier flexor response in the right foot than in the left. The ankle-jerks and knee-jerks were normal on both sides; also the abdominal and cremasteric reflexes.

Concerning the condition of the patient before this time it was ascertained that he was seized with vomiting towards the end of April, 1906. He rapidly lost in weight, as much as 30 pounds, so that in the absence of symptoms indicating a lesion in the central nervous system a competent observer suspected that the disease was tuberculosis. In May, 1906, he was examined by Dr. Hewlett, whose notes contained the same symptoms as those described in the foregoing, and furthermore an intense optic neuritis (observed by Dr. Barkan). There was some difficulty in swallowing and occasional fronto-occipital headaches.

A note on September 18, 1906, says that the patient's condition was unchanged and that he felt very well. A suspicion of atrophy in the right side of the tongue was not confirmed in the note of October 23d. The preceding week the patient had had some difficulty in swallowing food while in bed (to which he had been confined by a cold). The left side of the soft palate acted decidedly better than the right. There was again a well-marked papillitis; the edges of the discs had become decidedly swollen during the past week.

On this day the boy walked several blocks in the company of one of us. The cerebellar lurching and the ataxia of the right leg were commented upon during this walk, but the patient seemed not at all disturbed by them and declared that he felt "fine."

He appeared to be as usual on October 24th and 25th and on the morning of October 26th occupied himself in chopping kindling wood. About 2 in the afternoon he had a headache and vomited his food; after resting for a few minutes he asked again for food, but before he could get it the vomiting was renewed and he died about fifteen minutes after he had begun to feel ill.

On October 27th Professor Ophüls removed the brain, and kindly relinquished the specimen to us. It was fixed in formaldehyde and after that in bichromate of potash, and, after hardening in alcohol, the blocks were embedded in celloidin and sections cut as far as possible perpendicularly to the long axis of the pons and medulla oblongata.

As for the gross appearance of the specimen, it may suffice to say that the medulla oblongata was transformed by a tumor into a spherical body; the tumor projected chiefly out of the right half of the medulla. A section through the middle of the pons discloses a tumor in the fourth ventricle, the roof of which had given way.

The microscopic sections were mostly stained by a modification of Weigert's method for the myeline

* From the Neuro-Pathological Laboratory of the San Francisco Polyclinic.

sheaths; some were stained by Von Gieson's method and others with hematoxylin and eosin.

In sections through the posterior part of the posterior corpora quadrigemina, at the level of the trochlear nerve, except for some dilation of the fourth ventricle conditions are normal. The superior cerebellar peduncles are observed here shifting ventralwards and towards the median line on the way to their decussation further forwards. Sections through the pons and cerebellum, beginning at the level of the emergence of the fifth nerve, show a tumor lying in the fourth ventricle. The tumor in the upper sections is situated in the right half of the ventricle. It becomes gradually larger as we descend, extending across the middle line. It is free in the ventricle until the level of the sixth nerve is reached, where it is seen to project from the floor of the ventricle a little to the right of the middle line.

The superior cerebellar peduncles at these levels are misshapen, compressed and pushed far apart. A mere thread of tissue passes from one to the other, forming all that there is of a roof of the ventricle; in some places even this is wanting. In the pons itself under the floor of the ventricle, except for some asymmetry and signs of compression in and about the median fillet no damage is discernible down to the level of the origin of the abducens nerve. Here, however (where, as already stated, the tumor first appears connected with the floor of the ventricle), a pathological change is revealed in a section stained by Weigert's myelin-sheath stain by a slight pallor in the right half of the pons in the area between the sixth nerve and the middle cerebellar peduncle. This pallor becomes somewhat more distinct a little lower down in a section through the upper medulla oblongata, where the intact seventh nerve traverses the affected area, and soon in the course of our descent most of the nerve fibers between the right olivary body and the right middle peduncle have disappeared.

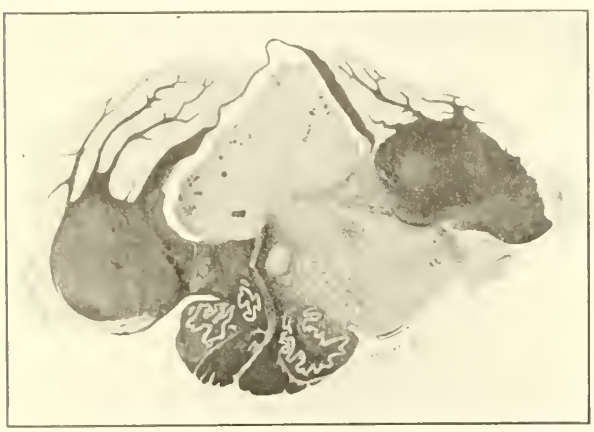

Figure 1.

The Van Gieson stain shows that the growth extends here through the right half of the medulla oblongata from its dorsal to its ventral surface. The intraventricular and intramedullary portions of the tumor increase rapidly in size.

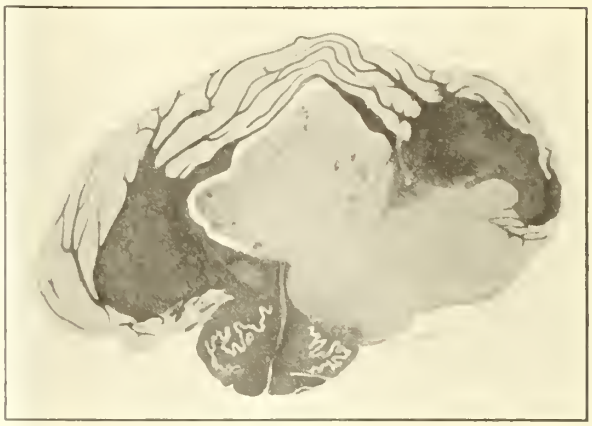

Figure 2.

In the region in the upper half of the olivary body it extends toward the right from the olive to the flocculus; the pyramid and the fillet are spared. It then continues to enlarge laterally, destroying the right corpus restiforme and encroaching upon the right middle peduncle of the cerebellum.

After the medulla oblongata has separated from the cerebellum the tumor is at first confined to the right half of the medulla, but it gradually invades the left half in its dorsal part (Figure 3) and near the lower pole of the olive it occupies the dorsal half of the left side of the medulla oblongata and reaches there laterally almost to the corpus restiforme. Hypoglossus fibers are preserved in the ventral half of the section.

Figure 3.

Sections through the medulla oblongata at, and below, the lower tip of the olive now present roughly the picture of a crescent-shaped medulla formed by both (intact) pyramids and a small amount of normal nerve tissue dorsad of them on either side of the middle line, and by the myelinated tissue at the left periphery situated between the pyramid and the restiforme body. Internal arcuate fibers are preserved on the left. The concavity of this crescent is occupied by a tumor which extends dorsalwards until it fills the space between the corpora dentata of the cerebellum and invades the white cerebellar

substance on the right beyond the dentate body. Figure 3 shows well the relations between cerebellum, medulla oblongata and tumor, which are found also at lower levels than that represented in this illustration: more and more of the medulla is superseded by the tumor until the shape of the former approaches more that of a crescent. It is difficult in parts to get one's bearings on account of the widespread destruction of tissue and the asymmetry of the section. It is about at the level of the calamus scriptorius that the crescent-shape described is most marked. Here we find the pyramids and the fillet preserved on both sides, also some hypoglossus fibers on both sides; further on the left the direct cerebellar tract, the corpus restiforme and the solitary bundle adjoining the tumor, and the internal arcuate fibers descending to the fillet.

A section through the medulla oblongata (and cerebellum) at the sensory decussation exhibits the tumor at its maximum. The relations between medulla, cerebellum and tumor remain the same as shown in Figure 3. The decussation is intact; the internal arcuate fibers form a cup which is occupied by a part of the tumor, and these fibers run into the tumor on the right. The root of the spinal accessory is seen in the left half of the medulla. Beyond this the examination of the medulla could not proceed, as the tumor formed the lower end of the specimen and there was no spinal cord attached to it.

In the cerebellum the growth extends backwards in the lower worm, is triangular in shape and occupies at first the whole of the transverse section of the uvula, and is bounded dorsally by the white matter connecting the two corpora dentata. The tumor in the vermis becomes smaller posteriorily, diminishing in its dorso-ventral dimension. It soon disappears, leaving the dentate bodies and the posterior part of the inferior worm intact.

Professor Ophüls examined our specimens and pronounced the tumor a glio-sarcoma.

It will occasion surprise that so extensive a disease in a part of the nervous system which presides over so important functions should be compatible with life as long as it was in this case and should be so easily borne. Oppenheim, in his Lehrbuch der Nervenkrankheiten, 5th Edition, p. 1036, furnishes the reproduction of a section showing an amazing destruction of fibers of the medulla oblongata by two tubercles. Starr writes in his "Nervous Diseases," p. 578 of the third edition, that he has seen an infiltrating glioma of the medulla oblongata which produced an apparent uniform increase in size of the entire medulla to double its ordinary dimensions, but in which there were absolutely no signs of any disease of either cranial nerves or tracts passing through this important part of the nervous system.

The persistence of nerve fibers within the tumor might be supposed to account for this incongruity between extent of the growth and paucity of symptoms. We have found myelinated fibers within the substance of the tumor, as other observers have done; but they are met with in the marginal areas of the growth and are absent from the central parts. Bielschowsky (*Journal fur Neurologie und Psychologie,* Bd. 7) has found more axis-cylinders with his silver-aldehyde method than the Weigert method showed myelinated fibers, but those were also only in the marginal zone of infiltrating tumors. So histology does not provide the desired explanation.

In the case of Starr's which was just referred to, the symptoms had led to the diagnosis of tumor of the cerebellum. In a case reported by Wiswe in the *Deutsche Zeitschrift für Nervenheilkunde,* Bd. 34, in which the tumor was found at autopsy to be in the medulla oblongata, Oppenheim had supposed it to be in the cerebellum or the cerebello-pontile angle, and this incorrect diagnosis had led to an operation on the cerebellum. Earlier in our case, at a time when the intense optic neuritis existed, one of our predecessors had made the diagnosis of a cerebellar tumor. From these errors it will be seen that tumors of the medulla oblongata may be mistaken for growths in the cerebellum, and as cerebellar growths nowadays indicate an operation, and as a tumor in the medulla oblongata is a *noli-me-tangere,* the distinction has become a matter of practical importance; which it was not, a relatively short time ago.

Our patient had a cerebellar gait; but the peculiar ataxia of the right foot, the astereognosis of the right hand, the disturbance in the innervation of the soft palate and the difficulty in swallowing, besides the subsidence of the papillitis and the patient's subjective condition seemed to us to point rather to the medulla as the primary seat of the disease with secondary impairment of cerebellar functions (through involvement of the peduncles) than to a growth in the cerebellum which produced some of the symptoms by pressure on the medulla oblongata. An operation was therefore not taken into consideration.

## TRAUMATIC INJURIES OF THE HEAD.*

By O. D. HAMLIN, M. D., Oakland.

In the study of traumatic injuries of the head, the question of diagnosis or the extent of injury is the first question of importance. An early diagnosis will lead to proper treatment, and it is often difficult to make a correct diagnosis of concussion, compression from fracture, compression from hemorrhage, fracture without compression with or without hemorrhage, laceration of brain tissue or subarachanoidal serous exudate, which follows some cases of head injury, or a combination of two or more of these conditions, where the symptoms of one overlap into the other.

When one of these conditions exists alone, the diagnosis is not so difficult, but it is important to study separately the symptoms of these conditions so that we may know more clearly where one condition overlaps into another. For instance, an injury sufficient to cause a fracture of the skull is nearly always associated with some concussion, especially if the traumatism is received by a fall

* Read before the Pacific Association of Railway Surgeons, August, 1909.

severe enough to jar the brain tissue. The patient may remain unconscious for a few minutes or a much longer period, according to the severity of the concussion, and recover consciousness and again return to an unconscious condition or a semi-conscious condition, or may show some evidence of paralysis, due to a slow, oozing hemorrhage. Here you have an illustration of one condition lapsing into another, the first unconsciousness being due to concussion, the second due to hemorrhage, or the continuation of the first unconsciousness due to concussion overlapping into the period of hemorrhage.

The differentiation between concussion and compression is not difficult when these conditions exist separately, but is often very difficult when the symptoms of both are prominent.

In concussion the pulse may be slow and feeble, while in compression the lessened pulse rate is not marked by a corresponding diminution of force. In concussion the pallor of the surface is marked, while in compression the natural color is maintained. In concussion we have a low blood pressure, going as low as 60 or 70, according to the severity of the concussion. In compression the blood pressure may be raised or about normal, but should both conditions exist the blood pressure may be slightly lowered. The respiratory act in concussion is usually not affected, while in compression the vagus center is usually decidedly affected. In concussion the pupils respond to light, although sometimes unevenly contracted, while in compression they are usually fixed, often dilated, may be unequal, and do not respond to light.

It was one time thought that an inequality of the pupils was due to fracture, compression of hemorrhage, but experiments have shown that an inequality of pupil may exist in concussion. The exact reason of this pathology has not been clearly defined. Unconsciousness may exist in both conditions, except in concussion unconsciousness is immediate and in compression often develops later, unless one condition overlaps into another. Should the symptoms of concussion exist for a long period of time our suspicions should be aroused to some condition other than concussion.

In fracture of the base, hemorrhage may take place from the ear, from the mouth, from the nose or under the conjunctiva, escape of cerebro-spinal fluid may be noted from the ear or nose.

When hemorrhage exists from the nose or ear it may be accompanied by cerebro-spinal fluid, and if collected the presence of sugar may be demonstrated, also characterized by small amount of albumen and a relatively large amount of sodium chloride.

Fractures of the base are regarded as more serious than fractures of the vault, as these fractures open into cavities which it is impossible to keep surgically clean, hence the great percentage of meningeal infection following head injuries. However, according to McEwen, 85% of basal fractures originate in the vault and are caused by an extension of a linear fracture from the vault.

In regard to meningeal infection, a wonderful step has recently been taken in this direction, which is written up in the *Johns Hopkins Bulletin* for April, 1909, which shows that urotropin administered by the mouth invariably appears in the cerebro-spinal fluid. This fact has been demonstrated by a number of observations on animals and man. It is found that within an hour after the administration of the drug it appeared in the cerebro-spinal fluid, and that after the administration of the drug, within therapeutic limits, a sufficient amount of the drug appeared in the cerebro-spinal fluid to exercise a decided inhibitory effect upon the growth of organisms inoculated into the fluid after its removal from the body. It was also found that the inoculation of dogs and rabbits with streptococcus and then 60 to 80 gr. a day of urotropin, given under conditions which would insure absorption, will markedly defer and in some cases prevent the onset of fatal meningitis. In view of these observations, the administration of urotropin is advised in all clinical cases in which meningitis is possible or threatened, or even where meningeal infection has actually occurred.

The question of blood pressure in the study of brain surgery has become more and more important, first, from the standpoint of injury received by the patient to determine the amount of concussion existing, or, as has been stated by some, the amount of shock, as the pathology of shock and concussion are so closely allied that many investigators claim that it is impossible to differentiate between them. The treatment of shock, and collapse due to hemorrhage, is considerably different.

Cushing predicts that in the routine treatment of shock, concussion and hemorrhage, observations upon blood pressure will soon occupy the same relative position that pulse and temperature occupy at the present time.

As to the treatment of these conditions, the beginning of rise of blood pressure is the cue as to whether your treatment is doing any good and as to whether it should be continued in larger or smaller doses.

The indiscriminate use of normal salt solution, strychnia, digitalin, morphin, nitro-glycerin and other drugs, which has become a matter of habit, are mentioned only to be condemned. The recent experiments of Crile and the conclusions which he has drawn from these experiments have thrown a new light on this field. To the surgeon of to-day, the essential fact brought out by Crile's experiments is that strychnia, the stimulant universally employed in the treatment of shock, is practically of no value. Crile's statements go further to say that strychnia often increases the condition of shock which it is intended to relieve, and this coincides with my personal experience. I have not used strychnia except as a respiratory stimulant.

This can be clearly demonstrated to us if we stop for a moment to consider the pathology of concussion. According to Crile and other investigators, the pathology of concussion or shock has not been fully determined. The condition is defined by Gould as a relaxation or abolition of the sustaining and controlling influence which the nervous system exercises over the vital organic functions of the body as

a result of a profound impression made upon the cerebro-spinal axis either directly or through the agency of an afferent nerve, or through the circulatory system. According to Crile's experiments, this condition is shown to be an exhaustion or paralysis of the vasomotor centers and loss of vascular tone due to vasomotor disturbance.

Having this pathology in view and considering the physiological action of adrenalin and following the experiments of Crile with adrenalin, I feel that this drug should be given the first place in the treatment of concussion.

Case No. 1—G. R. January 10, 1909. Age 28 years. Injured by falling from street car, striking on the side of the head. Seen two hours later at the hospital. Patient unconscious, pupils dilated, did not react to light. Blood pressure 110. Lumbar puncture negative. Bleeding from left ear. After shaving head, examination revealed evidence of severe traumatism an inch and a half above the left ear. Patient was prepared for exploratory incison, opening of the skull by means of the trap-door method, sometimes known as the Hartley-Krause operation. Fracture of the skull running down from the petrous portion of the left temporal bone with a large extradural clot. Consequently, no incision was made into the dura, on the ground that if there had been a severe sub-dural hemorrhage, the lumbar puncture would have revealed the evidence of blood in the cerebro-spinal fluid. Patient was given practically no anesthetic for this operation. However, the anesthetist gave the patient a few whiffs of ether, but this was hardly necessary. Patient did not begin to recover consciousness for about four hours after the operation. Consciousness came on gradually.

Condition of patient after operation: Pulse 54, respiration 28, temperature 97, blood pressure 110. Blood pressure during operation descended to 90, but within four hours after the operation ascended to 120.

Patient given adrenalin 10 min. every four hours, hypodermically. Next day, patient's condition generally improved. Pulse 60, blood pressure 124, temperature 99 2/5, mental condition beginning to clear, considerable nausea and vomiting during night. Slow, gradual improvement for the next five days, blood pressure remaining between 118 and 125, pulse between 50 and 58, temperature 96 to 99 2/5. After three weeks patient returned to his home, convalescent. Patient seen several times since. No further effects from operation.

The important point in this case was that concussion existed and also some compression from the extradural hemorrhage, which could not be definitely diagnosed without exploratory operation.

Case No. 2—J. L. April 10, 1909, 24 years. Occupation, clerk. Struck with a piece of iron gas-pipe over the right side of the head, during a quarrel. Patient returned to his home without evidence of severe injury. Next morning complained of headache and remained in bed. Did not call physician until afternoon, at which time I saw patient in consultation with his physician. The patient showed evidence of paralysis of the right leg and arm on the same side as the injury. Patient was removed to hospital that evening. Next morning paralysis of right leg and arm more marked, temperature 99, pulse 110, blood pressure 140. Patient was prepared for exploratory incision. The injury being on the right side and the paralysis being on the right side, the exploratory trap-door operation was made on the left side over the fissure of Orlando. Lumbar puncture revealed sub-dural hemorrhage by decided evidence of blood in the cerebro-spinal fluid. On exposure of the dura, no pulsation, but evidence of a large clot extending into the fissure about the size of a 50c piece. Clot removed. Brain showed evidence of pulsating. Dura closed with very fine catgut sutures. Wound closed. Incision made on right side over point of injury, but revealed no evidence of injury to the bone and symptoms showing no pathology to indicate injury on that side of the head, no further operative steps were taken on the right side. Blood pressure during operation went down to 120, but immediately after operation rose to 135 and remained between 135 and 150 for the next five days, pulse ranging from 96 to 112 during the next five days. Patient complained of considerable pain in the head. No other symptoms of any importance developed for the next two weeks. Patient remained in the hospital about three weeks and returned home without any evidence of permanent injury.

The important points in this case were that the injury was on the right side but the paralysis showed the evidence of pathology on the left side; that the lumbar puncture revealed the evidence of subdural hemorrhage; that the injury was contra-coup, and that the hemorrhage was slow, gradual, oozing, as the patient returned to his home alone that night and did not show evidence of paralysis till the next day.

Case No. 3—A. P. January 20, 1909. Laborer. Age 45 years. Fell from a street car. Brought to the hospital unconscious, bleeding from both ears, pupils equal, did not react to light. Examination revealed what might be a paralysis of the right leg and arm, that is, patient was somewhat restless, freely moving the left leg and arm and hand, but on account of head injury and unconscious condition of the patient, one might be led to believe there was a hemorrhage on the left side of the brain. But further examination revealed an intercapsular fracture of the right thigh, fracture of the right clavicle and of the right acromion process, which accounted for the patient not moving the right side. Patient's pulse was 120, temperature 98 3/5, blood pressure 140.

Patient was prepared for exploratory incision, and, as the bleeding had existed from both ears and lumbar puncture revealed decidedly blood-stained cerebro-spinal fluid, a large opening was made at the base of the skull over the cerebellum on each side of the median line just below the lateral sinus, at which point a large clot was removed. Patient put to bed. One hour later, pulse 108, temperature 99 4/5, blood pressure 120, respiration 48. Patient's general condition seemed to improve for about two hours. About four hours later, patient sank into a deep comatose condition and died in about eight hours from time of operation.

Autopsy revealed fracture of the skull, beginning in the vault about an inch and a half above the external occipital protuberance in the occipital bone and extending through the suture of the occipital bone into the petrous portion of the temporal bone down to the foramen magnum on both sides. Fracture seemed to run a similar course on the left and right side into the foramen magnum except on the left side the line of fracture into the foramen magnum seemed to be a little anterior of that on the right side. The left lateral sinus, or the sigmoid sinus, as it is sometimes called, just under the mastoid process of the temporal bone, had been ruptured. Disorganization of brain tissue and considerable destruction of the cerebellum on the left side.

The important point in this case was the apparent paralysis of the right side, which might mislead one to suspect hemorrhage of the cortex on account of the local injury of the right hip and shoulder. Will

state further that in this case the autopsy revealed no hemorrhage of the cortex or parietal portion of the head, death being due to the destruction of the cerebellum.

Case No. 4—Mrs. B. February 2, 1909, 40 years. American. Housewife. Found unconscious on the street. Later history of the case revealed that she had been riding in a buggy which was struck by an automobile. Patient unconscious. Right pupil dilated. Left pupil about normal. Both pupils reacted to light. Temperature 98, pulse 60, blood pressure 120. Cheyne-Stokes respiration. Hemorrhage from the right ear. Examination revealed reflexes equal on both sides. No motor disturbance. Patient prepared for exploratory incision. Lumbar puncture showed evidence of decided blood stain in the cerebro-spinal fluid. Incision made over point of injury at the base of the skull below the lateral sinus on the right side, which revealed compound comminuted fracture about an inch and a half in diameter. Bony fragments and blood clot removed. Patient put to bed, head elevated, given adrenalin 10 min., atropin 1/150th, hypodermically. February 3d—Temperature 97, pulse 50, respiration 32, blood pressure 130. Dressings of head showed evidence of considerable drainage and moisture, large quantity of blood and watery fluid. Patient remained in this same condition for about six days until about February 9th, at which time patient had three convulsions in less than two hours. Patient removed to operating-room and without anesthetic, wound opened and examination of the brain surface revealed a clot about the size of a 50c piece. Clot removed. Case dressed and patient replaced in bed. February 10th—Temperature 100, pulse 60, respiration 32, blood pressure 130. No evidence of further convulsion. Patient given liquid nourishment every three hours, adrenalin chlorid 10 min. every six to eight hours. This treatment continued for about two weeks. Condition showed general slow signs of improvement. February 27th—Patient allowed to sit out of bed. Patient continued to improve until March 20th, when she left the hospital, convalescent.

The important point in this case was that convulsions were due to blood clot, which ceased after its removal, also the fracture was at the base of the skull, and often these cases, because the fracture is at the base, are considered non-operative. In this case the operation was necessary, as the clot was located at the base of the skull below the lateral sinus, and shows that operative interference at the base of the skull can be done successfully in proper cases.

This was the ninth case that I have trephined the base of the skull, with the recovery of five and death of four. In all cases of death, autopsy revealed disorganization and severe rupture of brain and cerebella tissue and in one case extensive injury to the medulla.

Case No. 5—J. T. March 31, 1909. Age 75 years. Struck by electric car while crossing the street. Examination showed slight contusion over left cheek bone and left side of head. Patient unconscious. Pulse 50, temperature 98, blood pressure 90. Deep comatose condition. Pupils did not react to light. Respiration 14. Did not react to stimulation. No evidence of hemorrhage. Lumbar puncture revealed no hemorrhage in the cerebro-spinal fluid. Diagnosis of concussion was made in this case. No operative procedure indicated. Patient remained in comatose condition for about four hours and died. Autopsy revealed decided anemia of the brain tissue, very slight hemorrhage into the right cerebella fossa, but this did not enter into the cause of death, but the cause of death in this case was concussion and shock.

The important point in this case was that this was purely a case of concussion, as the autopsy revealed no evidence of sufficient hemorrhage to cause death.

Case No. 6—W. C. March 12, 1909. Age 31 years. Injured by being struck by a street car. Condition when seen at the hospital about one hour later: Contusion and laceration of scalp above right ear about two inches and a half in diameter. Pulse 120, respiration 30, temperature 99, blood pressure 150. Lumbar puncture revealed no evidence of blood. Patient was unconscious for about two hours after injury. Pupils equal and reacted to light. Examination revealed a bulging mass about two inches and a half in diameter above the right ear.

Patient was prepared for exploratory incision, which revealed depressed fragments of bone and a profound extradural hemorrhage. Loose fragments of bone were cleared away and extradural clot removed. On examination of dura no normal pulsation could be seen. Dura was opened and considerable effusion relieved, after which normal pulsation returned. Sharp edges of bone were removed and plain gauze dressing used.

Following day, temperature 100, pulse 80, blood pressure 135. Patient dressed every day. One draining strip was not removed until the fourth day and then partially replaced to give additional drainage. Patient continued to improve and left hospital April 15, 1909, convalescent.

The important diagnostic point in this case was the profuse hemorrhage, which was extradural, and lumbar puncture did not show hemorrhage. In my experience the cases of subdural hemorrhage have always shown signs of blood in the lumber puncture. One argument which may be raised against this is that the lumbar puncture itself may show some slight hemorrhage, but this has not been so in my experience.

Case No. 7—Wm. J. August 2, 1909. Newspaper man. Age 35 years. Brought to hospital unconscious from fall out of buggy. When seen a half hour later still unconscious. Examination showed no marks of violence on body except contusion over the middle of the forehead at the junction of the hair line. Pupils dilated, reacted to light. Blood pressure 100, pulse 54, temperature 98. Lumbar puncture negative, but twenty minutes later patient began to regain consciousness and within an hour patient had regained consciousness sufficiently to recognize his wife and other people that he knew, but mentality not clear, memory as regarding accident a complete blank. This condition continued for about 24 hours, patient complaining of severe pain in the head. Blood pressure varied during the first 24 hours from 100 to 110, pulse ranging from 48 to 56. Temperature next morning 96 2/10.

This condition was diagnosed as one of pure concussion. Patient continued to complain of pain in the head until August 16th, at which time he had recovered sufficiently to be allowed to go about one hour morning and afternoon. Patient continued to improve. August 16th, blood pressure 150, pulse 84, temperature from August 4th to 10th ranging from 96 to 98. August 20th, patient convalescent. Blood pressure 160, temperature normal, pulse 90. Some pain in the head over the supra-orbital nerve.

The important point in this case was that it was one of concussion and required no exploratory incision of the scalp, as the injury to the forehead was not sufficient to injure the scalp. The symptoms,

blood pressure, pulse rate and temperaure pointed purely to concussion.

Case No. 8—B. M. August 8, 1909. Schoolboy. Age 12 years. Struck by automobile, rendered unconscious for about two hours. When seen with his physician the following day, August 9th, blood pressure 140, temperature 99 4/5, pulse 120. Large contusion about two inches in diameter just above the left ear. Lumbar puncture showed no signs of blood. Patient suffering from considerable pain in the head. Prepared for exploratory incision. Severe contusion and large depressed fracture found over the parietal eminence on the left side. Fragments of bone removed and an extradural clot about two inches in diameter. Dura bulging, showed no signs of pulsation. Very small incision made in the dura and considerable serous exudate relieved, after which dura showed normal pulsation. Wound closed with small drain.

August 11th—Temperature 100 2/5, pulse 102, blood pressure 130. Patient's general condition good. Patient was put on 5 gr. urotropin three times a day. Patient now convalescent, sitting up. Wound healed.

The important point in this case was that the first unconsciousness of about two hours was due to concussion. There was no particular evidence of hemorrhage or fracture, but the severe injury to the scalp warranted an exploratory incision into the contusion over the parietal eminence on the left side, which incision revealed a fracture.

To my mind, all severe injuries to the scalp, followed by the history of unconsciousness or other evidence of severe injury, require exploratory incision of the scalp at least, which often reveals fractures.

### Discussion.

Dr. W. I. Terry, San Francisco: There are one or two things which I want to speak of in regard to Dr. Hamlin's paper, especially from the diagnostic standpoint. Several years ago Dr. Huntington and I commenced making lumbar punctures as a routine practice and we found them to be of great value. I agree with the conclusions set forth in this paper. A new point just brought out from the prognostic standpoint is the persistent absence of deep reflexes, which means that the brain will not recover. In these cases an anemia of the higher centers has persisted so long that they are dead and the patient will almost invariably die. The point in regard to the relation of alcohol and fracture of the skull: so often we have a mixture of the two. A drunken man is struck on the head and the difficulty of diagnosis is great, and in those cases lumbar puncture helps greatly. If you get bloody fluid you can be sure of fracture of the skull in addition to alcohol. Urotropin I have employed for a year now, and in two cases at least it has been of great value in preventing meningitis and in one case of developed meningitis, where the organism was streptococcus, the patient recovered. I give much larger doses than spoken of here, and I think that not less than 80 grains a day should be given. These large doses will produce hematuria in a considerable number of cases, which is transitory and stops as soon as the urotropin is discontinued. There are no casts in the urine where the hematuria is due to urotropin. In the treatment of basal fractures the subtemporal decompression operations are advocated, especially by Cushing. It is difficult to get at the base, even by the method of which Dr. Hamlin speaks. Going into the posterior fossa will relieve some of them. I think that the simpler proposition is simply to open the skull under the muscle, put a drain down toward the base and close the wound, leaving the bone out entirely, and the temporal muscle will prevent a hernia.

Dr. O. D. Hamlin, closing discussion: Dr. Terry brought out a point with regard to the operation over the temporal region. It is true that an operation at the base will not relieve the middle and anterior fossa, but if you have sufficient evidence from your injury, such as bleeding of the ear, you generally have your hemorrhage in the posterior fossa and know where the condition is. In this case I operated below the sinus, and if the hemorrhage is in the anterior or middle fossa you must do the temporal operation.

## REMARKS UNDER HEAD OF GEOGRAPHICAL DISTRIBUTION OF LEPROSY.*

By ARTHUR A. O'NEILL, M. D., San Francisco.

(The following is an abstract of a clinical discussion of certain patients presented at the meeting of the Society.)

Of all the diseases to which mankind is subject, none has such universal distribution as this disease, the living embodiment of which I am presenting to you.

Medical men are very apt to have preconceived ideas of the nature of leprosy and to picture to themselves a human being who is nothing more or less than a caricature of the human form divine. As a matter of fact, in its earliest stages, leprosy is far from being a striking disease; for years the only visible evidence of its existence insistence being two or three small blotches or one or two patches of pale or pigmented skin. Those are very often disregarded by the patient and concealed by the clothing, their true significance of which is only appreciated by an expert.

It is found close to the Arctic Circle and thrives in the tropics. A study of the map of the world, in relation to this disease, would lead one to subscribe to J. Hutchison's belief that leprosy is essentially a disease of semi-civilization. Prior to the advent of the white man, the Hawaiian and the Australian aborigines knew nothing of leprosy, nor did they have the equivalent of the word in their languages. Wherever a leper has been introduced in a new country there he has blazed his way and his trail can be followed with unerring accuracy. In the Hawaiian Islands, for example, the disease followed the advent of the Chinaman and is called by the Hawaiians "Mipaki" or the Chinaman disease.

In late years wherever leprosy has been found among those of a higher civilization, there the advent of the leper shows no increase, as, for example, the colony of 160 Norwegian lepers that were introduced into the State of Minnesota. According to the latest report there are but twenty remaining in the original colony, and in the home country (Norway) measures to stamp out the disease have met with untold success. And again, in San Francisco in 1872, we had 51 in the hospital; to-day we have but 18.

* Read before San Francisco County Medical Society, November, 1909.

The disease is essentially contagious and such was the opinion given forth by the Congress of Leprologists that has just closed its session in Bergen. In what way this contagium is conveyed is unknown. As to the channel of infection, prior to 1909 it was supposed that a lesion of the continuity of the nasal mucous membrane was necessary for the introduction of the germ of the disease, the observers finding, as a rule, an ulceration of the nasal septum from which could be obtained the lepra bacillus. That this is not the case is shown by the large number of victims of the disease who present no nasal symptoms whatever.

It is rather a curious coincidence that long before scientists had thought of the nose as a point of entrance for the germ, the native Hawaiians had accepted it as the place of ingress. Their method of greeting is to put their faces together and rub their noses in a most vigorous manner, but among the Asiatics, who never touch one another at greeting but shake hands with themselves, and to whom the kiss is an unknown form of salutation, leprosy is rife.

As is well known, the only diseases in which we have made any advances, as regards cause and treatment, are those to which the lower animals are susceptible, and, as yet, unfortunately for mankind, we have been unable to inoculate any of the animals commonly used in bacteriological work.

*Heredity.* Heredity plays no part in the transmission of the disease. As Mr. Manson pithily expresses it, "physiological peculiarities and susceptibilities may be inherited, the parasite never."

*Treatment.* In 1908 Deycke attempted to grow lepra bacilli in pure culture but failed. He isolated a micro-organism which he termed "screpto-thrix leprodies." From this organism he extracted with ether a genuine neutral fact which he calls "Nastinie." Our experiments with this substance showed it to be an absolute failure.

Dyer of New Orleans claims to have cured 10% and to have noted an improvement in 25% of those under his care. No such percentage of cures is heard of from other leprologists. He attributed his results to the use of strychnia, arsenic and Chaulmoogra oil. Some other favorable reports have been received from India and the Philippines of the use of the X-Ray in this disease.

*Bacteriology.* Clegg, bacteriologist of the Bureau of Science of Manila, in March, 1909, is the last to have reported success in making cultures of the bacillus of leprosy and claimed that he carried it through five generations.

*Diagnosis.* The history of the patient is to be considered as to his exposure, his contact with persons, the areas of discoloration, anesthesia, trophic disturbances as perforating ulcers, muscle atrophy, causing the well known "Griffin hand," deformity of hands and feet, persistent ulcers, articular of phlanges and fingers and toes, facial paralysis, brown discolorations and peripheral ring elevated and deeply pigmented with lack of pigment in the center, expression of face, satyriasis, leontiasis, change of voice, the lips thicken, the nose broadens and the ears stand out with additional increased bulk, profuse perspiration; average life ten years.

Disease not inherited. Differential diagnosis—ordinary syringo myelia, ainhun, tuberculosis and syphilis. The fish theory of Hutchison has been offset by the fact that the disease is prevalent in certain parts of India where the inhabitants know not what a fish is and did not recognize the picture of one.

*Contagion.* Experience in New Orleans proves that one may be in very close and intimate contact with lepers and not develop the disease. The sisters of charity, who have complete charge of the institution, have washed the clothing, made the repairs on the clothing, frequently pricking themselves with the needle in so doing, waited upon these patients and none of them has ever developed the disease.

### Discussion.

Dr. D. W. Montgomery: It is now almost universally conceded that the bacillus called the lepra bacillus, or Hansen's bacillus, is the cause of leprosy, but how this virus gains an entrance into the human body is still a mystery. We do not even know if the lepra bacilli we stain are living. It has been surmised that they are dead, and that what we stain is merely a chitinous envelope.

It has been conjectured that the virus gains an entrance into the human body through the nose, but this seems hardly consistent with the fact that a great number of lepers are perfectly free of disease as regards their nasal passages. On the other hand there does seem to be a great number of cases that have an erythematous patch or patches five, six or seven years before they are declared lepers. I have seen these erythematous patches starting as slightly raised red, analgesic areas. Usually there is only one, rarely several. This patch may, and I think usually does, subside. I treated one such patient for quite a long time with salol, where the patch subsided leaving a tiny scar. I cannot, however, assert that the administration of the salol had any influence on the disappearance of the patch. It is possible that this man later on developed a classical leprosy.

It has been asserted that the acquisition of leprosy is dependent on the misery suffered by the individual. That he who is to get leprosy must be poorly housed and underfed. It is true that almost all lepers are poor, but that they are undernourished is another question. There was a Finnish sailor in the pesthouse some years ago, who was a giant, with fine muscles, a beautiful skin, and in every way well nourished. The first intimation he had of his disease was an urticaria-like eruption all over the body. This eruption subsided, and classic leprosy developed. As etiology, he gave a history of a very short stay of a couple of days in Hawaii. It seems almost impossible that he could have acquired leprosy on so short an exposure, as it usually seems to require years of intimate association to transmit the disease.

I have seen only two cases where leprosy was acquired in the United States. In one of these, a man got leprosy after living for quite a time in Chinese railroad camps in Nevada. The other case was a woman who was born in Ireland, and had only lived in Ireland, in Boston and in San Francisco. For a long time the source of her disease was a mystery to me, until the late Dr. George Fitch told me that a well-known Hawaiian leper had lived for a long time in the same house with her.

## THE PSYCHONEUROSIS, A REVIEW OF THE PRESENT STATUS OF HYSTERIA AND NEURASTHENIA.*

By CHARLES LEWIS ALLEN, M. D., Los Angeles.

While nervosity has undoubtedly increased with the steadily growing intensity of the struggle for existence, the functional neuroses have always existed, at least since man attained any degree of culture. As to their presence in all ages we have abundant evidence both in sacred and in profane literature. The very name hysteria has come down to us from ancient times and the popular designation for this neurosis in most languages, bears witness to the persistence of ancient ideas as to its pathogeny, which it appears almost impossible to shake off, for while no one believes to-day that hysterical manifestations are due to the wanderings throughout the body of a discontented uterus, the connection of this disease with influences proceeding from the genital organs has been curiously reaffirmed in the "sexual trauma in youth" theory of Freud.

While the disease has always existed and its underlying character has remained the same, its individual symptoms have varied somewhat with the ideas of the day. This in itself is in entire accord with what we now recognize as the chief characteristic of its victims, excessive amenability to suggestion. At the time that belief in sorcery and in demoniacal possession was almost universal, the popular idea affirmed that Satan had stamped his own with certain indelible signs which could be detected by those who knew how to look for them. Among these "Stigmata diaboli" figured localized anesthesias, globus, convulsive phenomena and certain mental peculiarities, which we now recognize as hysterical characteristics and it is not surprising that the army of searchers developed at that time should have had little difficulty in detecting in great numbers these children of the Devil who in many instances paid the supreme penalty of their lives as victims of the "grand neurosis." It has been said that the manuals of sorcery contained in germ the later "Lessons of the Salpetrière."

The modern history of hysteria may be said to begin with Charcot, who commencing his labors at the Salpetrière in 1862, had by 1880, extracted from the great mass of material found there, the elements needed for the construction of the clinical history of this disease. Among all the writers up to this time but four can be found who had the hardihood to deny the uterine origin of hysteria. Charcot occupied himself less with theories as to the origin of hysteria, than in painstaking investigation and description of its clinical manifestations, and by demonstrating its occurrence in males he broke definitely away from the idea that it was always of uterine origin. He first described the attacks of the so-called "grande hysterie," and under the head of permanent stigmata, whose presence in one or other form he regarded as essential for the diagnosis, he studied the characteristics of the various anesthesias, hyperesthesias, narrowing of the visual field, troubles of hearing, smell and taste, and various irregularities of muscular movement, as paralyses, tremors, spasms and contractures. He also described the trophic disorders and some of the mental phenomena of this disease. Under his numerous pupils these researches were extended and in the School of the Salpetrière the vast and complicated edifice of this so-called protean neurosis was built up. This work has been summarized in the Traité de l'Hystérie of Gilles de la Tourette.

The labor was enormous and it appeared that the result should last as an eternal monument to the great master. It was soon found, however, that "Grande Hystérie" rarely occurred in other countries, that many of the other symptoms were wanting, that even the stigmata were often absent, and that to observe hysteria as depicted by Charcot, one must go to Paris, preferably to the Salperière. It is only of late years, however, that the conclusions of this truly great teacher have begun to be seriously questioned, and it is remarkable that the gravest objections come from some of his former pupils, who confess that as a result of ripened experience they have had to change their views. Charcot occupied himself chiefly with the physical side of hysteria, though in his later years he seems to have acquired a conviction of the psychical nature of its phenomena. Even before his death there developed a tendency, especially among the Germans, to explain its manifestations upon psychical grounds, and to attach it rather to the psychoses than to the neuroses. This tendency has spread, and we find to-day that attempts to analyze the mental state of hysterics occupy the chief attention of those devoting themselves to the subject.

To more than outline some of the recent theories of hysteria would take us too far afield. Most of them are based upon more or less hypothetical psychological considerations. All show, however, that the necessity for revising the conceptions handed down to us by the school of the Salpetrière has been generally felt. Even in the lifetime of Charcot there arose an antagonism of views, particularly with regard to hypnotism and its relation to hysteria, between himself and Bernheim, the chief of the Nancy school. Charcot held that hypnotic phenomena were hysterical phenomena, pathological, and that susceptibility to hypnosis was in itself a proof of hysteria, while Bernheim affirmed that in hypnosis we had a new set of phenomena, differing altogether from those of hysteria and allied rather to those of normal sleep. Moebius and Strümpel considered hysteria as a "psychosis of representation" characterized by the ideas received being at once transformed into acts without the intervention of the will. Breuer and Freud thought that in every case of hysteria there was more or less tendency to dissociation of the personality and to formation of states of double consciousness, and these views Jolly seems to have shared to some extent. Sollier defines hysteria as "A physical functional trouble of the brain, consisting in a numbing or sleep-like condition, localized or generalized, transient or permanent, of the cerebral centers, and

* Read at the Semi-Annual Meeting of the Southern California Medical Society, Dec. 1, 1909.

translating itself by the various sensory, sensorial, motor, vaso-motor and psychic symptoms.

Probably the most important recent theories, however, are those of Janet and of Freud, the later ideas of Bernheim and the most recent views of Babinski. Janet admits the physical stigmata as *manifestations* of hysteria but not as constituting hysteria itself. The capital fact for him, is the general enfeeblement of the nervous functions, whose clinical substratum is an abnormal mental state. This is shown by certain mental stigmata, the most important of which consist in troubles of the intelligence and character. Double personality only exists in the somnambulistic condition. The stigmata are not associated by him with the fixed ideas, which are personal and variable, while the stigmata represent enfeeblements and have been the same since the Middle Ages. Hysteria is a form of mental disaggregation; "a person is not hysteric because he is amenable to suggestion, but is suggestionable because his will is enfeebled." The most important stigma of hysteria is abulia which plays in the genesis of the symptoms a capital role. In the opinion of Freud the majority, if not all cases of hysteria, arise upon the basis of some strong and generally unpleasant impression in connection with the sexual sphere experienced usually in early life, which though perhaps forgotten by the patient, still lurks in the region of the subconscious and modifies the mental operations and the physical acts, inhibiting or exciting, each at the wrong time. This he designates a "sexual trauma" and reasons that for a cure the influence of this impression must be removed. In order to effect its removal, it is first necessary to find out what the lurking idea is, and since the patient will seldom voluntarily disclose it, and may have forgotten its presence, it is usually necessary to bring it out by a method of pyschical analysis, often time-consuming in the extreme, in which by a study of the associations formed with suitably selected words, the examiner is able to make at least a shrewd guess as to the morbid idea and by an abrupt demand may secure a confession. Since free confession is good for the soul, this author claims to be able to effect a cure by securing it and by ridding his patient of this obsessive element by what he calls "mental catharsis."

According to Bernheim's latest views, hysteria is not a disease; we are all more or less hysteric and have some of the symptoms, but it is only in those in whom these manifestations are exaggerated that hysteria is present. The unique phenomena of hysteria are the crises, for which alone the name should be reserved. These arise independent of suggestion and are probably due to some special emotion. They consist in exaggeration of the natural psychodynamic reaction, may occur accidentally originally, but may be reproduced and in the end the "hysteric diathesis" may be developed. The so-called physical stigmata are due to suggestion either from without or from within. "The treatment of hysteria is not a matter of suggestion but of de-suggestion."

Although brought up in the school of the Salpetrière, and for years chief of clinic to Charcot, no one has more earnestly insisted upon the necessity for a revision of the subject of hysteria, or has done more to eliminate from it the factitious, than Babinski, whose views and whose personality have largely influenced recent discussions of the subject. According to him, even the name hysteria is so much associated with what he calls "paleopathology," that it is a question if it had not better be dropped altogether. In his "dismemberment of the traditional hysteria," he confesses how riper experience has convinced him that a large number of the formerly described symptoms are due purely to suggestive influences, and arise, either through autosuggestion, or by imitation, or through medical suggestion and are usually absent in patients who have not been subjected to these influences, particularly to those from a medical source. The so-called *"grande hystérie"* (i. e. the convulsive seizures, etc.,) has become, in Paris even, almost a thing of the past and many of the stigmata have been unable to stand the light of the twentieth century. In this he is borne out by a majority of the other French neurologists. His greatest service, however, has been in making more clear the diagnostic points between functional and organic conditions, in showing what symptoms of the latter origin are not found in hysteria and in urging the necessity for eliminating all possible organic lesions before attributing paralysis, anesthesias, etc., to a functional origin.

Babinski has expressed his ideas with regard to hysteria in the following terms: "Hysteria is a special psychic state manifesting itself principally in disturbances which may be called primary, and subsequently in secondary disturbances. The primary disturbances are distinguished by the fact that it is possible to reproduce them by suggestion in certain subjects, with rigorous exactitude, and to cause them to disappear under the exclusive use of persuasion. The secondary disturbances are distinguished by the fact that they are immediately subordinate to the primary disturbances." For him, troubles which are producible by suggestion and curable by persuasion are the only ones which are really characteristic of hysteria. Among them, the principal are convulsive crises, paralyses, contractures, tremors, choreiform movements, troubles of respiration and phonation, sensory and sensorial disturbances and vesical troubles. That suggestion can affect the reflexes, or can produce vasomotor, secretory or trophic disorders, by itself alone, he does not believe. He is willing to admit that the latter class of phenomena may arise through emotional influences started up by suggestion, but they do not fulfill his second requirement, since they cannot be controlled by persuasion. Between the words suggestion and persuasion, Babinski draws a sharp distinction, using the former to indicate the conveyance of an improper or unreasonable idea, while by persuasion an influence based upon reason and common sense is conveyed. Since only such disturbances as can be produced by suggestion and removed by persuasion are, according to his view, characteristic of hysteria, he suggests for them the designation "pithiatic phenomena" and for hysteria that of "pithiatism" (Greek: I persuade;—curable).

The subject having been brought before the Paris Neurological Society for discussion in May, 1908, it was found that while its members were in accord with Babinski upon many points, there was lack of unanimity as to the possibility of the stigmata occurring apart from suggestion and as to the influence of the latter upon the reflexes, the circulatory, vasomotor, trophic and secretory functions, and upon the temperature. Neither could they agree as to the meaning to be attached, respectively to the terms suggestion and persuasion nor as to the desirability of substituting the word "pithiatism" for hysteria.

The views of Freud have been opposed and his methods denounced, especially by Aschaffenberg, who declares that for most cases they are wrong, for some questionable and for all dispensable. It would seem that, at least in the class of cases seen in this country, the grubbing up of sexual incidents is much more likely to do harm than good. The discussion of hysteria has had the advantage of clearing away certain misunderstandings, and has brought home to those who have followed the trend of psychopathological research, the conviction that hysteria is a psychical disease and that its manifestations stand in some sort of relation to disturbances of function in the brain cortex. That a definite anatomical basis for it will ever be found seems unlikely, as it is not a definite disease, but a manner of reaction, which, inherent in some constitutions, may be acquired in others through influences which go to alter the nervous arrangements. This is exemplified in hysteria following trauma. The practical result of the study of hysteria has been, on the one hand a better knowledge of the functional neuroses and their relations, and on the other, we have become convinced that since hysteria is a psychical disease its treatment must be in the main psychical.

While typical cases of hysteria can, and should be differentiated, there is an interconnection between the whole group of functional neuroses and they are not infrequently combined in the same individual. Particularly is the combination of neurasthenia and hysteria a common one. Binswanger states in at least half of his female patients he has found a combination of the symptoms of both neuroses. The writer's experience long ago convinced him of the same fact and among the number of neurasthenics seeking relief at the Clinic of the University of California here, there are comparatively few of the women who do not present some of the minor symptoms of hysteria. These considerations have impelled some writers to form a group of "psychoneuroses," which would include in the main hysteria, neurasthenia and hypochondria, though some of the milder forms of mental disturbance might find here a place.

The term neurasthenia has been stretched to include nearly all the functional nervous conditions which could not readily be classified. As Reynolds has said it is "both boundless and formless." It has served its purpose as a convenient catch all, and "nervous prostration" which has had a popular vogue, is often a euphemism which serves to soothe the family, and to cover the ignorance of the physician, or at least to gain for him time in which to watch the development of affairs. While there is evidence to show that there may be a physical basis for neurasthenia in some of its forms, in its exaggerated manifestations, it is a psychical disease though presenting a different picture from hysteria. How can we conceive of the morbid anxiety, the various obsessions, phobias and *"folie du doute"* arising upon any other basis than that of disturbance of the psyche? The co-operation between psychologist and physician, with the development and popularization of psychological methods, has made for greater precision in diagnosis, and more just estimation of our cases. Particularly stimulating have been the investigations of Janet, and in this country the practical work of Dana and of Morton Prince has done much to clear our views, and to sharpen our conceptions, with regard to the psychoneuroses. In his "Partial Passing of Neurasthenia," Dana has effected as thorough a "dismemberment" of neurasthenia as Babinski has done of hysteria. He insists that fully 50% of the cases which in the past have been diagnosed as neurasthenia is either made up of the early stages, or represents *"formes frustes"* of the recognized insanities, mainly the manio-depressive, toxic and exhaustion psychoses and dementia precox, though sometimes general paresis. In a more recent article he urges a similar limitation of the term hysteria and describes certain borderland conditions between the two neuroses. The term "psychasthenia," introduced by Janet, has been thought a good designation for a certain class of these cases, and Dana suggests the division of the group of psychoneuroses into:

1. Hysteria proper or major.
2. Psychasthenia, which in its more pronounced form, when accompanied by morbid doubts and fears and obsessive phenomena he prefers to style "phrenasthenia."
3. Neurasthenia, simple and symptomatic.
4. Abortive types of the major psychoses.

While he accepts the general idea that hysteria is a morbid mental condition in which there is a tendency to dissociation of consciousness and of associated memories, leading to disintegration of personality, and in which subconscious states tend to control the body, and to produce certain symptoms and morbid conditions; in common with other writers, he finds it easier to give its clinical manifestations than to define it. The Psychasthenics form a certain quite familiar class of patients of whom time does not permit a description here, but who are in general characterized by deficient will power, tendency to constant and morbid introspection, impulsions and fixed ideas, and inability to adapt themselves to their surroundings, or to carry out satisfactorily any useful work. They are not insane and rarely become so, but they are so near the border line as often to raise doubts as to their sanity, though this again is a question of comparisons, for who has yet been able to define the normal mental standard?

We should not content ourselves with a diagnosis

of hysteria or neurasthenia until we have carefully eliminated the probabilities of organic disease and of the major psychoses. That neither of them is a definite disease but rather a manner of reaction, should always be kept in mind, and the frequent association of symptoms characterizing them, with organic disease in the nervous system and elsewhere, must be constantly before us. While psychopathological researches are helping us to a better understanding of their symptoms, their ultimate causes are multifarious and many of them date far back in the history of the race. For their elimination by prophylaxis from future generations, we must begin at the fountain-head, with the existing ancestors of those yet unborn. When the science of eugenics has made such progress that as much attention is paid to the propagation of the human race as is now given to the breeding of our more valuable domestic animals, we may expect a reduction in the number of cases of nervosity and insanity. In neutralizing the causes more immediately operative, general diffusion of knowledge with regard to physical and mental hygiene, the elimination of preventable diseases, the education of the public as to the evils of alcoholic and drug addiction and social progress in the adjustment of work and wage, will lend their part.

As to the processes in the individual organism which give rise to the neuroses, studies in metabolism have so far failed to give us much aid, and that they will ever bring to light any one efficient cause seems very improbable. Continued work along this line, with ever improving methods may, however, enable us to pick up some links in the chain of visious processes with which the victim is bound up, and may eventually give the clue to the disentanglement of the whole. Psychotherapy, so hopefully and so confidently proposed for the treatment of the neuroses, is too large a subject to be discussed in this paper. In the main it is, after all, but the application of the principles of mental hygiene and mental training, based upon knowledge of mental processes. That physicians should acquire this knowledge and should make use of it goes without saying. In all these things, the role of the general practitioner is a most important one. He it is who, knowing intimately the inherited traits and the mental and physical make-up of his patients, can intelligently counsel and direct their manner of life, choice of occupation and selection of a consort, and who can, and should, by voice and example, further all proper and practical schemes for hygienic and social progress. To no one else is given so great an opportunity, and to none so grave a responsibility, in working toward the future elevation of the human race.

## THE NORMAL SHAPE OF THE STOMACH; ITS PHYSICAL AND DIETETIC THERAPY.*

By ALFRED W. PERRY, M. D., San Francisco.

The great charm of surgery is that its remedies are mechanical and the good results following operations are obvious and reasonably sure. This may be said of the physical and dietetic treatment of most digestive disorders. There is no drug which favorably influences the stomach in the way of stimulation of its secretion, and a very few which have a reputed sedative influence, and even this is disputed. Where there is suffering as the result of stagnation of irritating contents, any alkali may relieve by neutralizing its acid contents, or any evacuant by emptying it completely; this is only relieving a symptom for the moment, and in no way influences the stomach for good. Stagnation of stomach contents is the main cause of the present suffering, and the future progress from bad to worse of all stomach diseases. Mechanical drainage of the stomach is just as important as of a pus cavity.

Boas says that "the chief task of gastric therapeutics must be to regulate the motor functions of the stomach."

Prof. A. E. Taylor of the State University says: "Now the motor functions of the stomach are the most important because they are the least dispensable, and the most important because their loss can be compensated for with the greatest difficulty. . . . The important functions of the stomach physiologically and pathologically are the motor functions, and the lesser functions physiologically and pathologically are the chemical and digestive functions."

The natural position of the stomach allows evacuation of its contents without any muscular aid at all; that is, the pylorus is the lowest point of the perfectly normal stomach. The exact determination of this has only been possible by X-ray pictures of the stomach filled with an opaque bismuth paste. This has been shown by Max Einhorn, Leven, Barret, Holzknecht and Rieder. Recent text-books up to 1906 do not show this.

Only 10 per cent of healthy adults have this normal position, but most healthy children have. In the 90 per cent of healthy adults having not a strictly normal position, it causes no symptoms because compensated by muscular action and development; when compensation fails, then we have symptoms just as in broken cardiac compensation.

The oldest representations of the stomach show it as horizontal in position, with the large curvature as a deep pouch, and the pylorus only a little below the cardia; as these pictures will show, the pylorus is in the course of time (in the anatomies) getting lower, the cardia higher and the stomach assuming a vertical position; the deep hanging pouch still persists, but becomes more shallow, until in 1906 the pouch disappears entirely, and we have the ox-horn shape of Holzknecht.

Although Holzknecht finds his shape in 70 per cent of healthy children and in only 10 per cent of healthy men, he assumes it as the normal type. Rieder with the same findings, assumes his shape as the normal from its prevalence. The reasoning of Rieder will do in determining the normal attachment of muscles, or the distribution of arteries, which organs are not changed by use or abuse, but it will not apply to the stomach and large intestines. Every bilious attack with vomiting, tends to alter the shape of the stomach from Holzknecht's to Rieder's form; and how few persons there are who have

* Read before the San Francisco County Society.

not had many such attacks. I saw in the last month a girl of 13 years with perfectly cylindrical straight toes; she had worn open sandals most of her life. I do not remember to have seen before a white person except with variously curved and prismatic toes. Are we to conclude that this last shape of toe is the normal because the prevalent type? The abuse of the foot as well as of the stomach is well nigh universal, and so the abnormal type of both prevails. The Holzknecht type is apparently the best suited to fulfil its function, viz., prompt and complete emptying between meals.

The outlets of the urinary and of the gall-bladder are also the lowest parts of these organs, and we often see the ill-effects of a raised outlet when the bar of an enlarged prostate gland exists. I trust that these are valid arguments for the adoption of the cow's-horn shape as the normal type for the stomach, and the vertical position.

The abnormal position and shape of the stomach in 90 per cent of healthy adults may not constitute a disease, but it must be an ever present predisposing cause of other diseases, viz., bilious attacks, post-operative dilatation, migraine, hyperchlorhydria and ulcer. The correct form and shape of the stomach being accepted by the medical world, will have important results in practice. When we see that nature has made such a double arrangement, both by gravity and muscular contraction, to effect the prompt and complete emptying of the stomach between meals, we are more likely to aid her by those almost obvious physical measures of position after meals, small meals, finely divided food, cold water only before meals, than by the uncertain action of drugs. It should make the general practitioner realize the folly of delaying surgical intervention in all severe cases of gastric disease, as there is certain to be a motor derangement in all of them.

The principle of treatment in nearly all gastric disorders is to restore the drainage by, first, raising the lowest part of the stomach to the level of the pylorus by a tight bandage over the lower half of the abdomen; this always does some good in cases where the epigastrium is hollow and the hypogastrium is bulging in the erect position. Even in cases where by the X-ray the position is shown not to have been much altered, the distressing nervous symptoms have been entirely relieved; this was because the relaxation of all the abdominal organs, especially the blood vessels, allowed an excessive amount of blood to accumulate in them with a corresponding anemia in other organs; the equilibrium of blood distribution is restored by the abdominal compression. An abdominal bandage should have no elastic in it, and should fasten in front with corset steels.

Prof. Morton found by the X-ray that in many cases of ptosis of the stomach, voluntary contraction of the abdominal muscles would raise the stomach to its normal position; a rise of three or four inches was not uncommon. Abdominal exercises may give a long relief to the sufferings and disorders caused by gastroptosis.

Second, raising the lowered part of the stomach by lying down for three hours after meals, or during the period of digestion; this is not suited for all occupations, but the results are often brilliant. To make a digression, I believe that the brilliant results of the rest cure have been in undiscovered cases of gastroptosis or gastrectasis. For persons who must stay on their feet, the liquids at meals must be restricted and the food very finely divided; for those who lie down after meals, much liquid food may be taken. Where plans one and two do not relieve, or cannot be applied, the only resort is gastro-enterostomy, and this must be done before the patient's nutrition is seriously compromised.

A pressing indication for surgical interference in chronic disorders of the stomach is given by a loss of weight of 20 per cent from the norm of 2 1-5 pounds for every inch of height; if the loss is greater than this, the result of operation is likely to be fatal. The losses of weight by fasting in previously healthy persons—Cetti, Succi, Tanner, in shipwrecks, and in attempts at suicide, show that a loss of 40 per cent may be easily recovered from without injury to the subsequent health; the reason of the difference is that in the persons operated upon there has long existed a stagnation of the stomach contents, with abnormal fermentations and production of toxins, whose absorption has lowered their vital resistance.

As there is no drug which acts well and with moderate certainty on the secretory disorders, it seems either a waste of time or a dishonest temporizing to continue drug treatment long; there is some motor disorder at the bottom of every chronic gastric disorder; even if we could remedy the secretory disorder, the motor disorder would remain. Fortunately the reverse is not the case. The results of the analysis after gastro-enterostomy have uniformly shown a restoration to normal chemism where hyperacidity had existed, and also in some cases of hypoacidity; where the hypoacidity was the result of complete atrophy of the gastric glands this could not be expected.

It has been shown by X-ray pictures of the bismuth-filled stomach, that when digestive troubles recurred, after a long period of relief in persons subjected to gastro-enterostomy, the cause was always a closure of the opening, or a sinking of the stomach below the level of the opening, thus allowing statis to recur.

The secretory disorders are much controlled by diet: much salt, and all spices increase the acidity; an absolute salt free diet extinguishes the HC acidity; all fats and finely divided foods decrease abnormal acidity. The motor and secretory disorders are still more controlled by a suitable diet: by this is not meant taking away each food which is found to disagree; this means starvation, which is worse than the original disease. Any kind of food will agree if in proper physical condition, and any kind of cooking, except fried foods; the optimum for the proteid foods is that they reach and remain in the stomach in a state of the finest division, and warm; for all breadstuffs the ideal is that they be eaten as dry as possible, without any admixture of liquid, soft food, gravy, sauce, preserves, fruit, to soften them except the saliva. The breadstuffs may be given as bread,

toast, crackers, rice, cornbread; the drier the breadstuffs are eaten the better they will be assimilated, as they are thereby better insalivated.

Where there is no serious anatomical disease, a suitable diet will cure, and even where there is, a suitable diet will often greatly relieve. Of chief importance in prescribing a diet in chronic disease, that the quantity must not be reduced below the physiologic minimum; a quantity that will furnish 2300 calories; this is, roughly, equal to 400 grammes bread, 200 grammes roast meat, 75 grammes fat. Roast meat presumably disagreeing, any form of proteid food may be substituted: milk, soft eggs, brains, tripe, boiled fish, minced meats; all foods must be in a finely divided state; milk as a liquid is in a finely divided state, and yet it often oppresses the stomach like meat, because when taken into some stomachs it coagulates into large, hard lumps, which have the same effect as similar pieces of meat; when milk oppresses it should be modified by heating with some cereal, or given as buttermilk, junket, or peptonized. Meats must be minced after cooking, as that process causes the fine pieces to cohere in large lumps nearly as tough as before. Cream, olive oil, plain or emulsified, butter, bacon fat, beef fat, may be substituted for each other according to the taste, as they are equivalent in nutrition.

## SOCIETY REPORTS

### ALAMEDA COUNTY.

The meeting of the Alameda Medical Association, for February 15th, was called to order at 8:40 p. m., Dr. Dukes in the chair.

On motion reading of the minutes of the previous meeting was dispensed with.

Dr. von Adelung presented an interesting case of filariasis also chylous urine and microscopical specimen. Patient improving under Wherry McDill treatment.

Dr. Crosby reported having this patient in his care for some weeks about one year ago. At first urine was clear, after about two weeks became chylous, than cleared again.

Dr. Wellman stated that in this case the filaria decreased from 500 per c. c. to 100 during cinchonization. Experiments by Dr. Wellman are now in progress to determine whether musquitoes indigenous to Oakland may disseminate the disease.

Owing to Dr. Emerson's illness, his paper on the "Surgical Anatomy of the Stomach and Duodenum" with demonstration, had to be omitted.

Also Dr. Rowell's paper on the "Physiology of the Stomach," he not being able to attend the meeting.

Dr. McClurg's paper on "Laboratory Findings in Gastric Ulcer" was read by Dr. Powell.

Dr. Boyes presented a paper on the "Symptomology and Treatment of Gastric Ulcer."

Dr. Hamlin gave a paper on "Gastroenterostomy," demonstrating the operation with drawings.

Dr. Clark presented a patient upon whom gastroenterostomy had been performed. Patient had regained weight, felt well and digestion good.

The cases presented and the papers read brought out an interesting discussion.

Dr. Stratton sounded the warning not to place too much dependence on laboratory findings at the expense of clinical symptoms, such as time of pain, localized tenderness, etc. He had seen perforated ulcers healed without vestige of a scar remaining, having had the opportunity of seeing the patient at necropsy.

Dr. Dudley Smith differed with Dr. Boyes in the use of atropin to control hemorrhage in gastric ulcer.

Dr. Dukes considered the ice bag useless excepting as it compels the patient to remain quiet.

Dr. Green stated that he thought the benefit derived from the ice bag or cake was due mostly to pressure. He had used gelatin with reasonable success in gastric ulcer.

Dr. Ewer pointed out that atropin controls hemorrhage by dilating the peripheral capillaries and ice by contracting them.

Dr. Clark said that the medical treatment had been well brought out, gastric ulcer should be treated medically from one to six months before calling in the surgeon. He emphasized the frequency of a carcinoma implanted upon the base of an ulcer giving symptoms of indigestion or neuralgia. Dr. Clark prefers double Roosevelt forceps to the single in the operation for gastroenterostomy. Dr. Hamlin preferring the single.

Dr. Crosby had seen a case of tabes operated on for gastric ulcer.

Dr. von Adelung uses hypodermic and rectal medication in gastric ulcer and prefers morphin to the ice bag to quiet patient. He emphasizes possibility of ulcer healing under medical treatment even after recurrence and tumor formation.

Dr. Pratt thinks that both atropin and adrenalin do good as long as too large doses are not prescribed.

Dr. Hamlin, in closing the discussion, stated that choice of drugs depended upon pathology of the hemorrhage, adrenalin to control capillary bleeding; atropin, bleeding from the larger vessels.

Following the discussion the association had the pleasure of listening to an interesting talk from Dr. James H. Parkinson, president of the State Society, who briefly outlined the program for the state meeting at Sacramento and emphasized the need of our practicing more gregariously and of consulting more with each other, also the need of stronger and better organization and a more elastic fee bill.

We should increase County Society membership, it helps to elevate individual standards. Character of the State Journal rests with us entirely. He advocated medical defense being taken up by the State Society and that county societies should be more active in regard to legislative matters. At the close of Dr. Parkinson's remarks the president appointed the following committees:

Program Committee: Drs. Lum, Adams and Powell.

Milk Commission: Drs. McCleve, Shuey, Hamilton, Rowe, and Nusbaumer.

On motion, to appoint committee to arrange for annual banquet, the chair appointed the program committee to act as a banquet committee.

After adjournment refreshments were served and a social hour enjoyed.

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The regular monthly meeting of the Alameda Medical Association for March was called to order at 8:20 p. m., President C. A. Dukes in the chair. The minutes of the two previous meetings were read and approved.

Dr. Stratton presented two clinical reports showing results of modern therapy in renal lesions. The first report dealt with a patient who had pain in the right dorsal lumbar region and bladder. Much pus and albumin in the urine. Illness extended over a period of some two months without yielding to usual medication. At that time a bacteriological examination of the urine showed colon infection; a bacterin from same was made. Now some seventy-eight days and patient doing well, it being some forty-three days since last recrudescence. Urinary antiseptics were continued in connection with vaccine treatment. Second case: A young woman who had been operated on twice, once for perinephritic

abscess and once for septic peritonitis. When seen by Dr. Stratton had poor health, pain in left side and a mass size of an orange. Sinus in scar in lumbar region. Bismuth paste injected. X-Ray showed sinus leading to site of kidney and about one inch below crest of ilium. Bismuth paste treatment continued for about five months. Liquid mixture always used. Next seen on January, 1910; condition, local and general, continued to improve after treatments were discontinued until sinus and pain had disappeared. Gain in weight, color and health.

Dr. von Adelung presented a case of Adiposis Dolorosis. He first saw the patient January 14, 1910. She complained of pain, swelling of the legs, weakness and nervousness; trouble dates to an exposure to dampness during menstruation nineteen years ago while cleaning house.

The exposure brought on rheumatic attack (inflammatory) in both ankles and both knees. On attempting to examine her, it was noted that she was sensitive to the pressure of the finger. This, together with unusual fat formation, led directly to the diagnosis, which later was endorsed by Dr. Herbert Moffit in consultation. Her arms and legs are much enlarged but do not pit although very tender. So tender that the application of the pneumatic bag necessary for the use of the Sphygmomanometer was endured by her with great pain. The fat is located mainly in the arms above the elbow over which it drops in a thick fold; and on the thighs to the knees at which point it again droops, and on the abdomen, where it forms a huge pendulous mass. The face, hands and feet are normal. The patient is weak physically, neurasthenic, and psychasthenic. Knee jerks are absent, constant headaches and vomits nearly every night. The skin is normal, the blood pressure is 147, the blood count normal, the hemoglobin normal. She urinates frequently day and night, passing seventy-seven ounces in twenty-four hours, but the urinalysis is otherwise normal. Her weight is 251. Menstruation ceased last October. She is 54 years old. Thyroid not palpable. Pulse 92. Cardiac palpitation, heart sounds normal.

Dr. Case presented two patients addicted to the use of morphin and outlined his treatment in each case.

Dr. W. A. Clark's patient failing to be present, demonstrations of the open method of reducing fractures had to be omitted.

Dr. Martin Fischer presented his subject, "The Nature, Cause and Treatment of Edema," demonstrating the same with frogs, drawings and pathological specimens.

Dr. H. G. Thomas' paper, "The Nature, Cause and Treatment of Glaucoma" (with demonstration), had to be omitted. Dr. Thomas being indisposed.

Discussion on Dr. Fischer's paper:

Dr. Briggs: Why is there an edema in diabetes, which is an acodosis, and what causes pulmonary edema?

Dr. von Adelung: Are the facts given in this paper applicable also to the augioneurotic edemas which are due to vasomotor conditions? Are these also explained by asphyxia of the locality?

Dr. Emerson: I saw an angioneurotic edema in the sublingual tissue and to do something for relief, made an incision, but to my surprise found no fluid.

Dr. Galraith: Why does a drop of atropin in a person of middle age sometimes cause glaucoma? Is that due to decrease of oxygen? Dr. Henry Lathan of Philadelphia and others claim that colloids are dialysable. Is that the same prineiple?

Dr. Stratton: Why is edema most marked at the dependent parts? Is it due to general dioxidation? We would also like to hear more details as to treatment.

Dr. T. H. Clark: Why localization of edema about the eyes in arsenical poisoning?

Dr. Fischer: Diabetes is not primarily an acidosis; not as much so as some other diseases. The coma of the final stages may be due to edema of the brain. Pulmonary edema is not due to interference with the pulmonary circulation. Tying of pulmonary vein does not cause it but interference with the systemic circulation and shutting off of the bronchial arteries. The fluid is in the lung tissue before it accumulates in the alveoli. This latter is analogous to accumulation in other body cavities. It is a phenomenon of surface tension. Angioneurotic edema comes only in a person who is "chemically wrong"; add to that some slight injury and a contact reaction occurs. Urticaris from flea bites is due to hypersensitiveness to minute doses of formic acid. It can be influenced by diet; cachlorids relieve it. The same principle holds in chilblains.

Atropin is one of the most vicious alkaloids for causing deoxidation. It is counteracted by sodium citrate. Local predilection of edema, in arsenical poisoning for instance, is due to the fact that the connective tissues around the eyelid have a higher affinity for water than any other in the body, hence they are the first to swell.

In cardiac edema the predilection for the most dependent parts of the body is due to the fact that they being farther away from the heart contain less oxygen. In cardiac affections pulmonary edema is a terminal complication, other tissues farther away from the heart suffer before the lungs do. A patient does not die because he has pulmonary edema but he has pulmonary edema because he is dying. In nephritic disease pulmonary edema is an earlier complication.

Treatment. Edema can be relieved by many things. In the brain, for instance, compression may give relief. It may be relieved by injecting the right kind of salt solution. Death does not come until it is sufficient to shut off the carotid circulation. The pressure on the brain may rise way above that of the circulation as high as 250 to 300. The whole body is a saturated colloid; if you give it salt the colloid shrinks, like the fibrin column and water is given off.

There is no danger to the heart in giving water in toxic edema. Every infection is a function of concentration not of amount. The more water you give a patient with toxic edema the less concentration is there. Water is carried from the intestine to the kidney without any expenditure of energy on the part of the system. Near the intestinal tract the blood has a high concentration of salt, is undersaturated for water, hence water goes into it from the intestines. In the lungs the blood loses the salt so when it comes to the kidney it necessarily gives off that extra water. During this circuit the water absorbs a good many substances.

Under business the following communication was read:

"The Alameda County Dental Society.
"Dr. Charles A. Dukes,
"Alameda County Medical Society,
"Oakland, California.
"Dear Doctor:

"The Alameda County Dental Society is giving a 'theater party' on the evening of April 11th at the Orpheum. The proceeds of the party will be used for the establishment of a free dental clinic. We desire the support of your society and our finance committee have reserved all the boxes for this evening; hoping to dispose of them to the different professional associations.

"Box seats are $1.00. A representation from your society will be greatly appreciated.

"Respectfully,
"PAUL T. CARRINGTON,
"Secretary."

Owing to the fact that nearly all present had arranged to attend the benefit no official action by the association was taken. Dr. Florence Sylvester, in speaking for the cause, urged the support of the association, in as much as such a clinic was greatly needed.

The following resolution, introduced by Dr. H. N. Rowell, was unanimously adopted and the secretary instructed to transmit a copy to the Board of Supervisors:

"Whereas, By reason of the increasing population of Alameda County the present accommodations for the county poor have become entirely inadequate, and

"Whereas, The Honorable Board of Supervisors of Alameda County, keenly alive to the humane duties devolving upon them, have recognized the absolutely imperative necessity of better facilities for handling the sick and have, by resolution, determined to procure a tract of land and erect hospital buildings of latest type and design, properly equipped within the city limits of Oakland, therefore be it

"Resolved, that the Alameda County Medical Association does hereby congratulate the Honorable Board of Supervisors upon its recent decision, and to offer its assistance in any manner, to the end that our new infirmary be such that it shall reflect credit upon this county generally and afford relief for the increasing number of indigent sick."

Dr. Florence Sylvester called attention to the annual meeting of the Alameda County Association for the study and prevention of tuberculosis to be held on Friday, March 18th, at 8 p. m., at the Chabot Observatory.

There being no further business to come before the association, upon motion duly seconded and carried, the meeting adjourned.

PAULINE NUSBAUMER, Secretary.

## BOOK REVIEWS

**Studies on Immunization and their Application to the Diagnosis and Treatment of Bacterial Infections.** By Sir A. E. Wright, M. D., F. R. S., Director of the Department for Therapeutic Immunization, St. Mary's Hospital, London. Late Professor of Pathology, Army Medical School, Netley. Archibald Constable & Co., Limited, London. 1909.

This volume is a reprint of papers which appeared originally in various English journals. With the exception of technical details, which are promised for a later volume, it represents a full report of the voluminous labors of Wright and his associates in this field during the last twelve years.

The book is divided into two parts, the first dealing with the scientific phases of the subject—the author's theories as to the mechanism of immunity, its production and application, with experiments to prove them; the second with the practical aspect, Wright's vaccine treatment of infections, and the practical value of the opsonic index in diagnosis and as a guide to treatment. The preface contains a concise statement of the author's views as well as a history of their development in his mind. Neither this nor the rather original index which appears in the form of a synopsis, should escape attention.

Very few pieces of research in medicine have found the instant and keen response in interest if not in full acceptance from all over the world, that Wright's work has found; the subject is still one of live interest, and inasmuch as Wright and his associates have done incomparably more and incomparably better work than anyone else, this book will find acceptance as a kind of classic. In the face of the figures given here, to say that any use of the opsonic index is necessarily unreliable is to show ignorance of the extraordinarily careful and accurate work which has been done in Wright's laboratory. Some of us are honest enough to say that our own estimations of the opsonic index are unreliable, and to believe that the method is far too complicated to make it worth while to spend the great time necessary to attain technical perfection, but that is not to say that technical perfection is impossible. Opsonic therapy has suffered from deductions based on too much careless and slip-shod work, especially in this country.

At the same time, brilliant as the papers are in many ways, the author will find few in any other country than his own who will follow him so far in ascribing almost exclusive importance in immunity to opsonins, or to phagocytosis. We cannot escape an impression of one-sidedness in reading this volume. Metchnikoff's original propositions on phagocytosis have steadily lost rather than gained ground in the light of newer studies on serum and immunity, such as those by his own pupils, Bordet and Gengou, and by Ehrlich and a host of German observers.

The book, however, will repay careful reading by everyone at all interested in vaccine-therapy, or in the broader field of immunity in general. Perhaps it will serve as a deterrent to the too-common slip-shod methods in this field. J. L. W.

**Studies in Immunity.** By Prof. Jules Bordet, Professor of Bacteriology at the University of Brussels, Director of the Pasteur Institute of Brabant, and his Collaborators, collected and translated by Frederick P. Gay, A. B., M. D., Instructor in Pathology, Harvard Medical School.

This volume should attract more than the usual amount of interest, containing as it does many of the researches from which the rapidly enlarging science of immunity took its origin. As the translator suggests in his preface, in this day of the "over-Germanizing" of American science, it may surprise many to discover that not Ehrlich but a Frenchman, Bordet, was not only the pioneer in the newer studies of immunity, but the contributor of a great mass of the most fundamental research. The all-important fact, for example, of the participation of two bodies, alexin and sensitizer or anti-body in all reactions of the immunity type in the animal body, was one of Bordet's early demonstrations, and his complement-fixation test as described in one of these papers (p. 190) is now more generally known in its specialized application as the Wassermann reaction for syphilis, but was widely used by its originator for the detection of a great number of different diseases. Bordet's application of a serum-reaction to the differentiation of blood-stains from different animals has already become of great medico-legal importance.

While this collection consists, except for the last chapter, only of papers which appeared separately, the effect is by no means fragmentary, inasmuch as the problems attacked were the ones basic to the whole subject, the applications of which are general. Among the most interesting papers, partly because they are the first steps in a new direction, and indicate the path which progress must take, are those correlating immunity-reactions with the newest knowledge of physical chemistry—especially the behavior of inorganic as well as organic colloids in reactions which are strictly comparable with those of immunity. It needs no gift of prophecy to foresee that the next great advance in the understanding of the life-process will come with the exploration of the great field of colloid-action, in which Bredig's researches in the inorganic kingdom can be carried almost bodily into the animal.

Bordet is known as the foremost opponent of the Ehrlich side-chain theory. This he attacks very ably and with the utmost good-feeling and courtesy in the

last chapter. He himself shows no taste for speculations beyond the immediate range of his particular experiment, and does not attempt to replace Ehrlich's explanation with one of his own, but he believes strongly that the latter in spite of his great ingenuity has to strain his theory too far in the attempt to cover the facts, and that in many instances the facts are not covered.

In closing we would compliment Dr. Gay on a peculiarly excellent translation, as well as on his judgment in bringing these papers before the English-speaking public. J. L. W.

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**Technik der Extensiensverbande.** By Drs. Bardenheuer and Grassner. Fourth Edition. 1909

This small work is so well known to those interested in the handling of fractures that it scarcely seems necessary to analyze the whole contents of the publication. Eminently practical and full of suggestions, the book has deservedly won a popular place in the library of German-speaking physicians who have had abundant opportunity to test the methods recommended by Bardenheuer. In the reviewer's opinion, Bardenheuer's results in Cologne are the best he has ever seen. Anatomically they are perfect. Instead of using splints as is usually done, he corrects the various displacements and in fractures of long bones maintains extension, by strips of adhesive plaster applied in such a manner as to overcome the action of the different muscles. While this has given excellent results in his own hands, others have frequently had considerable difficulty in handling these strips. We are therefore pleased to note that on pages 14 and 15 of this edition he recognizes the many advantages of Heusner's extension bandage which he describes in full.

Heusner's method is simple of application and may be quickly applied under the most varied circumstances. It will support a traction of 30 or 40 pounds. For example, in cases of fractured femur, a solution of fresh Venetian turpentine 50 parts and 70% alcohol or benzine 100 parts are sprayed or painted over the lateral portions of the leg and thigh. Over this is applied a strip of flannel blanket 3 or 4 inches wide and 2 to 2½ yards long, in such a manner as to form a sling about 10 inches below the sole of the foot. Care should be exercised to see that the bandage comes over the external and internal malleoli. Finally a circular bandage of starched gauze is applied from the malleoli to the trochanters, the knee and malleoli being included in the bandage. It is, of course, understood, that the general rules laid down by Bardenheuer for extension bandages must be followed. Counter-extension is applied at once. The bed must be flat, which requirement is easily obtained by putting some object like a house-door under the mattress; no sliding foot-piece is necessary and a pulley may be dispensed with. While a weight of 30 pounds may be at once applied, it has been found advisable to begin with about 10 pounds, gradually increasing this by adding 2 pounds every 2 hours until the maximum weight is attained. After a day or two, when the femur has regained its normal length, the weight is gradually lowered to about 14 pounds, which is maintained for a few weeks.

This method of dressing fractures commends itself on account of its cheapness, and from the fact that it may be applied quickly and without much special training. No irritation of the skin has been observed and the dressing may be readily changed if necessary. It is applicable to fractures of both the upper and lower limbs. From a rather large personal experience the reviewer is convinced that Heusner's bandage in the treatment of fracture cases offers great advantages over most of the other methods commonly employed. P. C.

**Vital Economy.** By John H. Clarke, M. D. A. Wessels. Newold Pub. Co., New York. 1909.

This little work breathes a spirit of kindly tolerance for the peculiarities and prejudices of the individual, at the same time offers a happy mean, in its suggestion to practice reasonableness in all things, whether it be food, drink or the care of one's body. The text of its little sermon might properly be, "Every one is a law unto himself." Withal the work contains much sound and wholesome common sense, presented in a plain, colloquial manner. Its perusal will afford a pleasing and satisfying half hour.

J. C. S.

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**The Propaganda for Reform in Proprietary Medicines;** sixth edition. Containing the various exposes of nostrums and quackery which have appeared in the Journal of the American Medical Association. Price, paper, 10 cents; cloth, 35 cents. Pp. 292. Illustrated.

This book presents in convenient form most of the exposures that have appeared in the Journal of the American Medical Association showing fraud either in the composition of various proprietary prepartions or in the claims made for such preparations. Not all of the products dealt with, however, are such as are—or have been—used by the medical profession. Many preparations of the "patent medicine" type have been subjected to analysis, and the results of such examinations appear in this volume. The book will prove of great value to the physician in two ways: 1. It will enlighten him as to the value, or lack of value, of many of the so-called ethical proprietaries on the market; and 2, it will put him in a position to answer intelligently questions that his patients may ask him regarding the virtues (?) of some of the widely advertised "patent medicines" on the market. After reading the reports published in this book physicians will realize the value and efficiency of simple scientific combinations of U. S. P. and N. F. preparations as compared with many of the ready-made, unstable and inefficient proprietary articles.

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**New and Nonofficial Remedies, 1910.** Containing descriptions of articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to Jan. 1, 1910. Paper. Price, paper, 25 cents; cloth, 50 cents. Pp. 256.

This is the 1910 edition of the annual New and Nonofficial Remedies, issued by the Council on Pharmacy and Chemistry of the American Medical Association, and contains descriptions of all articles approved by the Council, up to Dec. 31, 1909. There are also descriptions of a number of unofficial nonproprietary articles which the Council deemed of value. The action, dosage, uses and tests of identity, purity and strength of all articles are given. As an illustration of the scope of the book, attention is called to the following: The articles on arsanilic acid and its derivatives, page 35; on phenolphthalein, page 152, and on epinephrine, page 73, indicate the effort which the Council is making to have new remedies known by their correct names. The description of medicinal foods, page 120, should put physicians on their guard as to the small value of such products. Particular attention is called to the description of serums and vaccines, page 169. Since our knowledge of the therapeutic value of new remedies is still largely in the experimental stage, the statements which appear under each proprietary article are based largely on the claims made by those interested. On the other hand, on page 56, under creosote carbonate, is a note on the claims of nontoxicity often made for certain remedies. A similar caution in reference to the claimed harmlessness of intestinal antiseptics appears on page 41 under betanaphthol benzoate.

**Bacteriology for Nurses.**. By Isabel McIsaac, author of "Primary Nursing Technique," etc. The Macmillan Co., New York. 1909.

This book is one of a series of text-books for nurses, many of them by the same author. We imagine that bacteriology should be taught nurses with three ends in view: First, "general culture,"—such an acquaintance as anyone connected with the art of medicine should possess; second, the amount of practical knowledge which a surgical or office-nurse might require,—the preparation of dressings, sterilization, asepsis, etc.; third, a training in laboratory procedures,—preparation of media, examination of cultures, etc.,—which an office-nurse might well do, but which is not a part of the ordinary training. These requirements are adequately covered in the present volume, the first perhaps more satisfactorily than the other two. J. L. W.

## HONOR TO DR. COLBY RUCKER.

The many friends of Dr. William C. Rucker, Passed Assistant Surgeon in the Public Health and Marine Hospital Service, will be delighted to learn that he has been made a Fellow of the London Society of Tropical Medicine and Hygiene, in recognition of his splendid work in fighting plague in California. The same honor has recently been conferred on Dr. Rupert Blue. California has expressed her gratitude to these men and it is pleasant to see that other lands are doing so as well.

## TO THE MEDICAL PROFESSION.

A gentleman of means has a member of his family afflicted with progressive muscular atrophy, the diagnosis having been with certainty established after consultation with some of the highest neurological authorities of New York City and various cities of Europe.

These physicians are unanimously of the opinion that the case is incurable, inasmuch as up to the present there has been published no form of treatment or medication which is known to have positively cured or arrested the inroads of this malady.

This gentleman wishes to spare no effort to bring relief. He believes that, perhaps, somewhere some physician may have successfully hit upon some method of curing a case of progressive muscular atrophy, but who, through his inability to corroborate his results, owing to rarity of cases or through modesty or for fear of being discredited, has failed to publish his case. This gentleman's idea is to try to bring this record to the surface by making an appeal to the profession through this journal.

The case itself presents the characteristic picture and is typical of progressive muscular atrophy in every particular. The patient is fifty years old; married; in excellent general health. About one and one-half years ago the disease made its appearance in the left hand, progressed, and within a few months involved the right hand. Its progress since has been very slow. The family of this patient wishes to announce that any physician who supplies a complete history and detailed description of the method of treatment of any case of progressive muscular atrophy he may have successfully treated, the trial of which leads to the cure or arrest of the disease in their relative, will be rewarded by a liberal cash prize.

Requests for further particulars and replies should be addressed to "Enquirer," care California State Journal of Medicine, 930 Butler Building, San Francisco.

## ARMY MEDICAL CORPS EXAMINATION.

The Surgeon-General of the Army announces that preliminary examination of applicants for appointment as First Lieutenants in the Army Medical Corps, will be held on July 18, 1910, at various army posts throughout the country.

Full information concerning the examination can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an application are that the applicant shall be a citizen of the United States, shall be between 22 and 30 years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examination will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General on or before June 27, 1910. Early attention is therefore enjoined upon all intending applicants. There are at present 123 vacancies in the Medical Corps of the Army.

## NEW AND NON-OFFICIAL REMEDIES.

### SULPHO-LYTHIN.

Abstract from the report of the Council on Pharmacy and Chemistry of the American Medical Association (Journal A. M. A., Dec. 8, 1905, page 1930).

The following report was submitted to the Council by the subcommittee which examined Sulpho-Lythin:

To the Council on Pharmacy and Chemistry:—The following report on Sulpho-Lythin is herewith submitted:

Sulpho-Lythin is sold by the Laine Chemical Company, New York. In the literature sent to physicians it is said: "This product, the sulpho-phosphite of sodium and lithium (non-effervescent) is entirely new and is unique in its action."

Chemical analysis of a specimen of Sulpho-Lythin purchased in the open market, indicated its composition to be:

| | |
|---|---|
| Sodium sulphate, anyhydrous | 10.51 |
| Disodium hydrogen phosphate, anhydrous | 56.67 |
| Sodium thiosulphate, anhydrous | 20.78 |
| Sodium chlorid | 5.98 |
| Lithium, as citrate | 3.12 |
| Sulphur, free | 0.16 |
| Moisture | 1.53 |
| Loss | 1.25 |

The examination, therefore, shows that Sulpho-Lythin is a mixture consisting mainly of sodium sulphate, sodium phosphate, and sodium thiosulphate. The statement that it is a "sulpho-phosphite of sodium and lithium," therefore, is not correct, and a statement that "it is entirely new and is unique in its action' appears unwarranted and misleading. It is, therefore, recommended that the preparation be refused recognition. It is also recommended that an article be prepared for publication calling attention to the exaggerated claims made for Sulpho-Lythin.

The recommendations of the subcommittee were adopted by the Council, and in accordance therewith the report is published, with the following comments.

W. A. PUCKNER, Secretary.

According to the above analysis, this wonderful new remedy, "which surgeons of this city (New York) have used . . . after laparotomies . . . with excellent results," is simply a mixture of well-known salts obtainable in any drug store, and which any third-year student knows how to prescribe and even to compound.

Examination and analysis of various specimens of this product demonstrated that its composition is not always the same. Thus analysis of one specimen indicated only 5.12 per cent. of anyhydrous sodium sulphate instead of more than 10 per cent. in the first specimen; also this specimen contained 10.45 per cent. of water instead of 1.53 per cent. Apparently, therefore, the manufacturers are not competent to prepare a product of constant composition. One chemist calls attention to the fact that different portions taken from the same bottle differed widely in composition. The following is taken from his report:

The analysis shows Sulpho Lythin is not a definite chemical compound, but a mixture of sodium phosphate, sodium thiosulphate and some compound of lithium. That it is only a mixture is shown by the fact that in the examination for thiosulphate when the substance was examined without first being thoroughly mixed, results were obtained varying from approximately 27 per cent. in the first portions taken from a bottle, to 42 per cent. in the last portions of the same bottle.

## WONDERFUL VIRTUES OF THE NEW COMPOUND.

According to one circular, this simple mixture of salts is a great remedy for:

Disorders of the Liver, Inflammation of the Gall Bladder and Bile Ducts, Acute Congestion of the Liver, Gall Stones, Intestinal Indigestion, Chronic Constipation, Rheumatic and Gouty Conditions, Diabetes, Nephritis, Acute or Chronic Bright'sDisease, Genito-Urinary Diseases, Miasmatic (Malarial) Fevers, Skin Eruptions, Corpulency or Obesity, Convalescence from Alcoholism and the Treatment of Drug Habits.

In another circular we read:

"It is not itself a cathartic or even a laxative, but catharsis results from its administration because of the bile that is poured out into the intestinal tract, and the sulphur liberated by its decomposition."

Wonderful chemistry that is able to remove the laxative quality from Glauber's salts!

"Sulpho-Lythin is absorbed and passes into the circulation, where it exerts an antifermentative and antitoxic action, restoring and preserving normal alkalinity of the blood and preventing or counteracting septic processes throughout the body. It is also a solvent for uric acid."

Thus the great puzzle of an internal antiseptic is solved and that which generations of pharmacologists have failed to find is discovered by an ingenious layman, who now imparts his discovery to the medical profession at so much per bottle. Does he suppose that intelligent physicians still entertain the notion that anything that contains a grain or two of lithium to the dose will act internally as a uric acid solvent?

"Sulpho-Lythin acts also on the skin, stimulating the perspiratory glands and removing discolorations and eruptions on its surface."

Our amateur pharmacologist has probably applied his knowledge of amateur photography to therapeutics and uses "hypo" to remove eruptions as well as stains.

## NOT ADVERTISED TO THE PUBLIC?

This nostrum is not advertised to the public. Oh no! It is put up solely for physicians' use (sic). But the physician is repeatedly advised in the advertisements to "order always an original (6 ounce) bottle to prevent substitution."

If any apology is necessary for devoting so much space to such an insignificant nostrum it is found in the fact that Sulpho-Lythin is supported by testimonials from physicians of influence and standing, and is advertised in medical journals supported in part by educated and thoughtful members of the medical profession. It is also a sample of hundreds of other so-called "ethical proprietaries" which are made or sold by men who have absolutely no knowledge of drugs or of medicine, but who presume to advise physicians how to treat their patients. If these preparations are to be used some control to ensure their constancy of composition and the good quality of their ingredients is essential, and it is evident that the Council on Pharmacy and Chemistry was created none to soon to fulfill this important mission.

## URON AND THIALION.

Abstract from the report of the Council on Pharmacy and Chemistry of the American Medical Association (Journal A. M. A., Nov. 3, 1906, p. 1500):

The following reports were submitted to the Council by the subcommittees which examined Uron (Uron Chemical Company) and Thialion (Vass Chemical Company):

To the Council on Pharmacy and Chemistry: The following report on Uron is herewith submitted. Uron is sold by the "Uron Chemical Co., Box A., St. Louis, Mo." In the literature distributed to physicians and in advertisements appearing in current medical journals $LiC_{13}H_7N_4O_2$ is given as the chemical formula of Uron.

According to analysis, this article is not a chemical compound, but is a mixture of lithium benzoate and hexamethylenamin in approximately the following proportions:

| | |
|---|---|
| Lithium benzoate | 58 per cent. |
| Hexamethylenamin | 42 per cent. |

It is recommended that Uron be refused recognition and that this report be published.

To the Council on Pharmacy and Chemistry: We beg leave to report on Thialion as follows: Thialion is sold by the Vass Chemical Co., Danbury, Conn. In the literature supplied to physicians and in the advertisements in medical journals Thialion is stated to be a "laxative salt of lithia" with the chemical formula "$3Li_2O.NoO.SO_3.7HO$." "Sodiotrilithic anhydrosulphate" is given as a synonym. An elaborate graphic or structural formula is also given.

According to analysis, this preparation is a mixture consisting chiefly of sodium sulphate and sodium citrate, with very small amounts of lithium, the average of several estimations indicating the following composition:

| | |
|---|---|
| Sodium citrate | 58.6 |
| Sodium sulphate, anhydrous | 26.6 |
| Sodium chlorid | 3.3 |
| Lithium citrate, anhydrous | 1.8 |
| Water | 9.7 |

Thus, the advertising literature is a deliberate misrepresentation of the facts. It is, therefore, recommended that the preparation be refused recognition, and that this report be published.

The recommendations of the subcommittee were adopted by the Council, and in accordance therewith the above reports are published.

W. A. PUCKNER, Secretary.

In publishing the above report the Council is presenting to the medical profession another object lesson, and one that illustrates how easily our profession is being humbugged. Many of the scientific chemical compounds and derivatives given us by the German chemists have been distinct advancements. It is not strange that imitators should appear, and Antikamnia, Ammonal, Phenalgia, Salacetin, and now Uron, Thialion are foisted on the profession. We are told, and many believe that these wonderful compounds, by the mysterious union of

their ingredients, possess therapeutic properties different from, or more powerful for good than, the drugs from which they are made.

There is another factor worth noting connected with this subject: When to the claim that the mixture is a "chemical compound" is added a complex chemical formula, it prevents the impertinent question, "What is it?" For isn't the "formula" there, and is not the information given without the asking? Most of us have been so overcome by the display of the chemical knowledge of the nostrum maker that we have been afraid to expose our ignorance by asking for information or explanation. And thus the promoter avoids perplexing questions, which, if answered truthfully, would spell bankruptcy.

The Uron Chemical Company informs us, concerning Uron, that it has the chemical formula of $LiC_{18}H_7N_4O_2$. Now this formula looks very dignified and scientific to those who are not up in chemistry. To the chemist, however, the formula signifies nothing. A few simple tests reveal the composition of the mixture, and it is surmised that the "formula" is the result of an attempt to combine the formulas of the two ingredients, i. e., $LiC_7H_5O_2$ and $C_6H_{12}N_4$, the addition being faulty.

In regard to Thialion, the formula furnished by the Vass Chemical Company is even worse. To a physician who possesses but little knowledge of chemistry it will seem impressive, and he may absorb the idea that it stands for a preparation that is the result of exhaustive scientific research. To the chemist this formula will appear as a jumble of symbols and numbers that mean nothing.

While there is a ridiculous side to this business, there is also a serious one. Those who have been making money out of us undoubtedly laugh in their sleeves at our gullibility, but to us as members of a presumably learned and intelligent profession, it is not a laughing matter. The whole nostrum business is a shame and a disgrace.

## VIN MARIANI.

According to a report of a committee of the Council on Pharmacy and Chemistry, published in the Journal of the American Medical Association, November 24, 1906, "Vin Mariana" is a preparation of red wine, apparently imported from Bordeaux, and fortified, in this country, by an alcoholic preparation of coca leaves or other parts of the coca plant. An analysis of the imported wine showed its alcoholic strength to be 10 per cent by volume, while that of the Vin Mariani as bought in the open market was 16.15 per cent. The finished sample showed also 0.025 per cent of alkaloids (coca bases). It appears that the increased alcoholic strength of Vin Mariani over the Bordeaux wine from which it is made as shown by this analysis, doubtless comes from the alcoholic extract containing the coca bases. Approximately 6 per cent of sugar is also added to the wine. Judging from the analysis, therefore, Vin Mariani corresponds to a mixture of an alcoholic preparation of coca leaves and ordinary Bordeaux red wine, with the addition of about 6 per cent of sugar.

This preparation is in conflict with rule 5 of the Council on account of misrepresentation in implying that the preparation made in this country is imported, and is guaranteed as pure and unadulterated by the United States government. It also conflicts with rule 6 by the exaggerated and misleading statements as to therapeutic value. The firm's letter-heads have printed on them the following:

"Vin Mariani purifies the blood stream, strengthens the circulation, stimulates muscular fiber and nerve tissue, is a respiratory stimulant, strengthens the heart muscles, and is an emergency food in the absence of all other nutriment. Successfully employed as an adjuvant is anemia, debility, diseases of the chest, nervous troubles, muscular or mental overstrain, neurasthenia and allied conditions, and in certain cases of protracted convalescence."

The committee believes that Vin Mariani is intended as a beverage rather than as a medicine. The report concludes:

"The committee recommends, therefore, that Vin Mariani be refused recognition and that this report be published in full or in part."

The facts are that Vin Mariani is made in this country, but the proprietors endeavor to create the impression that it is a French preparation. It is no longer advertised directly to the laity, but the same object is attained by the circulars around the original bottle prescribed by the physician. Testimonials from eminent foreigners accompany the medicine, while the testimonials of eminent Americans are used on the other side of the Atlantic. Is it possible that the testimonials are fakes? The circulars are calculated to lead the layman to conclude that the remedy is a cure-all.

Can we blame the layman for using Peruna, Wine of Cardui, etc., simply because they are advertised, when there are physicians who, for the same reason, prescribe concoctions that are just as quackish and just as useless? And can editors of medical journals consistently find fault with newspapers for carrying advertisements of fraudulent "patent medicines" when they themselves admit to their pages advertisements of nostrums that are no less fraudulent and of no more value?

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## NEW MEMBERS.

**Jennison, Jno. E.**, San Diego.
**O'Neill, B. J.**, San Diego.
**McKay, W.**, San Diego.
**Cope, Jas. H.**, Pleasanton, Cal.
**Simon, E. G.**, Oakland.
**Backus, W. J.**, Stockton.
**Buckley, W. L.**, Linden.
**Magee, A. C.**, San Diego.
**Swift, S. B.**, Marysville.
**Peery, J. T.**, Corcoran, Cal.
**Rosson**, Hanford.
**Blodgett, T. D.**, Tulare.
**Horn, Henry**, San Francisco.
**Feeley, Matilda A.**, San Francisco.
**Pring, Ernest**, San Francisco.
**Selling, N.**, San Francisco.
**Hubbell, G. R.**, San Francisco.
**Pitcher, Josephine**, Half Moon Bay, Cal.
**Sawyer, H. C.**, San Francisco.
**Runckel, Geo.**, Placerville, Cal.
**Murphy, A. S.**, San Luis Obispo, Cal.
**Wade, T. L.**, Cayuces, Cal.
**Brown, T. F.**, Los Angeles.
**McCoy, T. J.**, Los Angeles.
**Clarke, W. T.**, Los Angeles.
**Miller, C. F.**, Los Angeles.
**Jones, A. H.**, Los Angeles.
**Clark, W. S.**, Los Angeles.
**Rice, N. J.**, Pomona, Cal.
**Sawyer, E. H.**, So. Pasadena, Cal.
**Crawshaw, J. A.**, Hanford, Cal.

## RESIGNED.

Curtis, H. L., San Francisco.
Baker, C. C., San Francisco.
American, Samson, San Francisco.
Smith, Donald, Belmont (from San Francisco.)

## DEATHS.

Childs, A. F., Oakland.
**Beetle, C. H.**, Berkeley, Cal.
Pond, G. P., Menlo Park, Cal.
Horsley, W. H., Manton, Cal.
Hughes, L. B., in Colorado.
Stockton, Thos. C., San Diego.

# California State Journal of Medicine.

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PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE.

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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. VIII JUNE, 1910. No. 6


## EDITORIAL NOTES.

### NOTICE!

The statement has been made by sundry persons who should know better, that the accounts of the Society have never been investigated. This is absolutely untrue. Every item of income or expense has been accounted for and examined by an expert accountant beginning in May, 1905. The books are closed on the 31st of December of each year and turned over to an expert accountant who is employed by the Council for that purpose. These reports for 1905, 1906, 1907, 1908 and 1909 are on file. Moreover, every year a copy of the auditor's report has been placed in the hands of every delegate in attendance. The annual investigation is not made hurriedly and carelessly by members appointed as an auditing committee, but is done thoroughly and carefully by men whose business it is to audit accounts and look for anything wrong. They have given a clean bill of health for each and every year. The Secretary is under bonds—and he likes the climate of San Francisco.

### MEDICAL DEFENSE.

The most important action of the House of Delegates at the last meeting, Sacramento, April 20th, 1910, was undoubtedly the establishment of medical defense on a permanent basis. The experience of other states and our own experience since last July have shown conclusively that all members may be defended in all suits for alleged malpractice for a comparatively small sum per annum. One dollar per member is a sum so small as to be insignificant to any practicing physician, and yet that one dollar per member, taken in the aggregate furnishes enough to more than take care of all the expense under any ordinary circumstances. It was the opinion of the House of Delegates that it would be well to make the assessment one dollar and thus accumulate something ahead, after which time the assessment could be reduced to conform more nearly to the amount of the year's expenses for this purpose. The assessment covering the period from last July to the 31st of this coming December, was made due and payable before July 1st, 1910. Every member should therefore see to it that his assessment is paid by his county society before that date. This money must be paid by each member to his county society and that society will, in turn, pay for the whole of its membership in a lump sum to be remitted to the Secretary. Do not send your individual assessment for Medical Defense to the office of the State Society; it is to be paid to your county society. So much for the business end of the subject. If you are a member in good standing—dues fully paid up—you are fully protected by the State Society and any suit against you for allegel malpractice will be defended by the legal department of the Society to the court of last resort. But see to it that you keep up your membership and that your assessment is paid for you to the State Society before July 1st, 1910.

The plan adopted is very simple; there are but three requirements. First, you must be a member in good standing, dues paid in your county society, and you must have been in good standing at the time the alleged malpractice was committed. Second, the alleged malpractice must have occurred after you became a member of the society, or after the 1st day of July, 1909. Third, you must send to the Secretary of the State Society, within forty-eight hours after you are served in any suit, a full, true and correct copy of the complaint together with a full statement of all the facts in the case. Is there anything difficult about any of these requirements? Pay your dues and keep them paid; notify the office of the Society promptly when you are sued or a suit is threatened. That is all there is to it. You will be put to no additional expense, other than your dues.

Mistaken impressions in regard to certain details connected with our Medical Defense plan seem to have been obtained by some members.

*Investigating committee:* There is an impression that any threatened or actual suit against a member is to be investigated by a committee of his county society and not defended unless they report favorably. This is not the case; every suit will be fought. The Council considered this point at some length, and while it is true that this provision is in force in some states, the Council did not think it wise, for an adverse opinion by a committee would at once put a great handicap upon a member who would then have to defend such a suit at his own expense.

A committee of the county society is provided for in our plan, but it is a committee to investigate and report the facts to our attorney and to consult with the defendant. The suit will be defended just the same whether such a committee is needed or appointed or not. Have no anxiety on that score.

*Delinquent members* are not members in good standing. Any names reported to us by county secretaries as "delinquent" are dropped from our rolls; the State Society recognizes only members and non-members; not members "delinquent." If you are in the delinquent class at the time you treat some patient who subsequently brings suit for malpractice, you can not be defended by the State Society. Therefore, it is incumbent upon you to look after your standing in your county society and see that at all times your dues are fully paid up. The amount is very small. In no county society in the state are the dues any more than would be the price of medical insurance alone, if you undertook to buy it from a company.

Medical Defense of our members is a positively established fact. You will be defended in any suit for alleged malpractice that may be brought against you, absolutely without cost to yourself. This protection of the State Society covers all of your work since July 1st, 1909, and will cover it so long as you remain in good standing in your society. Is it not worth while to belong and to keep up your membership?

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**HARMFUL PRACTICE.**

The report of the Council presented at the Sacramento meeting of the State Society, calls attention in most calm words to an evil in the practice of medicine which has been and is growing at such an alarming rate that it threatens to work incalculable evil, not alone to the younger physicians, but to the public and to the public esteem of medicine and of medical men. To put a noble and a learned profession on the bargain counter basis, is certainly an undignified thing to do. Furthermore, either consciously or unconsciously, any physician who is treating sick people on the dollar-a-month plan is going to spend the smallest possible amount of time on each patient, with the foregone result that a great many patients will be neglected, not infrequently to their serious peril. It is a calamitous thing from every point of view and if there is the slightest possibility of discovering a remedy, let us devoutly pray that it may be discovered. The House of Delegates called upon the President to appoint a committee to study this matter fully and report at the next meeting. Undoubtedly the President will take the greatest care in the selection of the committee, and that being done we should do everything in our power to aid them in their work. Contract practice, lodge practice, dollar-a-month concerns, all of these institutions that work for the lowering of the medical profession and the injury of the public, should, in some way, be abolished. The man at the top of a particular specialty can laugh at all this, but the general practitioner or the younger man can not laugh; he sees not only unfair competition, but he sees actual injury being done to people who could afford, and would if they knew just what they were getting in the way of medical care, to pay a competent physician his regular fees and get that proper care for which they pay. To the specialist at the top, people will come even if they do belong to some organization permitting them to receive free treatment, provided that they have some serious complaint along the line of that man's specialty. It is a question directly affecting the rank and file of the profession, and it is the rank and file that really counts, when all is said and done. Of course it is impossible to legislate honesty or decency into any one. But can there not be found some way in which the men who are prostituting themselves and their profession in this manner can be shown the error of their way and the harm they are doing, not to themselves alone but to the whole profession of medicine and to the public?

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**TUBERCULOSIS CAMPAIGN.**

The anti-tuberculosis activities in the state are certainly making progress. Not only is the medical profession arousing a good deal of interest among the laity in the work of fighting this disease, but it is also arousing a good deal of interest and activity among its own members. A great many more physicians are now studying and writing upon the modern handling of cases of tuberculosis than ever before and the interest seems to be very general. The State Association has made an excellent showing and the Second Annual Report of the San Francisco Society is a most creditable document. The dispensary started in San Francisco should be of the greatest benefit to that community and it is a shame that our municipal governments are not sufficiently alive to the importance of the movement to take it up officially and operate these dispensaries as municipal affairs. In the long run the community would greatly benefit in actual hard dollars, for every breadwinner or housewife incapacitated from work sooner or later makes some charge or expense to the community. Every such individual cured and put back into the producing class is a definite financial gain to the city. Insurance companies are appreciating this very fully and not a few of them have arranged to have their insured examined as often as they may desire, free of charge, on the principle that it is cheaper to keep the insured well and working and thus paying premiums, than to let them get sick and die when they might be saved for some years longer. This is exactly the idea involved in the commercial consideration of the anti-tuberculosis movement; it is cheaper and better, financially, for the community to cure or greatly relieve a tuberculotic than it is to allow him to go his course, spread the disease to many others, become a helpless invalid and very often a charge on the city, and die far short of the years allotted him and which might have been his with a little thoughtful care. Again is the fact emphasized that bad housing is the most important factor in the spread of tuberculosis, for though but 27 of those treated at the dispensary in San Francisco were females, it appears that 13% of the total number treated were housewives; the one who is

forced to spend the major portion of her time and her work in an insanitary house is the victim of the landlord's greed and the carelessness of the city fathers in allowing "light and air, like porterhouse steaks, to come too high for poor people." But we do seem to be making some progress.

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**NASTY WORK.**

An instance of about as nasty, inethical and, indeed, even dishonest a piece of business as could well be imagined has recently come to our attention. Whether the particular occurrence cited is unique or whether the evil is one of any considerable extent it is not possible to say; we can only hope that there are very few such rascals in the medical profession. A certain physician was called in consultation by a family who had for a regular attendant their lodge doctor. Suggestions were made by the consultant that were well accepted and for a time the patient improved. Changes were again made, without consulting the consultant, and the patient failed somewhat, so that the family telephoned for the consultant. He replied that he could have nothing to do with the case unless he were to be again called in by the regular attendant. The family insisted upon a consultation and the family physician called in another consultant—not the first one. After more or less discussion and communicating back and forth, the original consultant, who had been well liked by the family and whose suggestions seemed to have been of benefit to the patient, was insisted upon by the family and was reluctantly called in again by the family physician, who thereupon confessed, very frankly, to the consultant that he had objected to his being recalled into the case because said family physician always expected to have the consulting physician divide his fee with him! What a nice mess! Truly, it is about the limit of impudence and open, utter dishonesty. That the division of surgical fees goes on all the time and everywhere, seems to be generally conceded, though its dishonesty is evidenced by the secret manner in which it is done and the unwillingness of any of the participants to such a transaction to let the fact be known. But that the same type of dishonesty should have extended itself into the domain of consultation fees, is indeed a surprise and a shock. What hope is there of combating the contract and dollar-a-month evil when one has to do with such rotten ethics and such gross disregard of common honesty in the individual? Such a thing is no more and no less than stealing, and to fail to call in a consultant who may be of the greatest benefit to the patient, is not much less than criminal. Can any of our members report other instances of this outrageous practice? If any readers know of such cases will they please communicate with the editor? The names will not be used but the facts should be known.

**CORRESPONDING EDITORS.**

At the last meeting of the State Society the By-Laws were amended by adding a section to one of them which provides for the election by each component society, of a corresponding editor, whose duty it shall be to send in scientific editorials, items of interest, notes, etc., for the JOURNAL. This can be made a very valuable and attractive feature of the JOURNAL if those elected as corresponding editors will but take an active interest in their work. It is proposed to set aside a sufficient number of columns for this special matter, giving a list of corresponding editors at the top, and giving credit for the material sent in. Of course, as the amendment provides, all such matter submitted shall be subject to the approval of the Publication Committee, just the same as anything else submitted for publication. The opportunity is now presented for every county society to co-operate more actively in the JOURNAL and to let the other counties know just what is going on in its territory that will be of interest to others in other parts of the state. But like a good many things, it is very largely up to the individual counties and the editors they elect, to produce results. No general editor and no publication committee can do this work; if it does not come voluntarily from the properly qualified corresponding editors, then it will not appear in the JOURNAL. As yet no county societies have sent in the name of the corresponding editor, but there has not been sufficient time since the meeting.

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**EASY MONEY.**

Schemes innumerable there are for separating money from people. One is again reminded of the historic, if unflattering remark of a New York Police Inspector when he raided the establishment of a notorious "sure-thing operator": "Preachers, doctors and lawyers are the easiest suckers there are." Pay so much and you have your name in large type in the telephone book. But what earthly good does it do you? Did you ever hear of any physician who ever got a patient because his name was in large type in the classified end of the telephone book? Comes also the man with the "physicians' blue book" or red book or black book and says, pay so much and we put your name in large type and we will say almost anything about you that you like. It is just advertising, plain and simple, and the worst kind of advertising because it does not pay. It is very doubtful if ever a doctor got a patient from having his name in display type in these things; they are just methods of separating Mr. Easy from a few of his dollars; and furthermore, they are advertising methods that are not exactly just the thing that the real high grade, self-respecting physician adopts. But then, "Preachers, doctors and lawyers are the easiest suckers there are."

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## TUBERCULOSIS SUNDAY.

April 24th was celebrated throughout the United States as Tuberculosis Sunday. On this date, from the majority of pulpits a sermon was preached upon the dangers of tuberculosis, general methods of pre-

venting it, and the responsibility of the body politic in trying to eliminate the "white plague."

Aside from its educational value, the day marked a distinct epoch in religious and medical evolution. Twenty years ago the church was extremely dogmatic—to mention the word evolution from the pulpit of a house of worship was considered a sacrilege. Therefore, when we consider that upon April 24th clergymen discoursed at length not upon religion, but upon the dangers of disease, that numerous pulpits throughout the country, and particularly in San Francisco, were occupied by physicians who joined hands, for the time being, with the pulpit in an effort to educate the people in the prevention of disease, we must indeed acknowledge that a distinct educational advance has been made.

The preacher of twenty years ago preached a doctrine of punishment in the world to come, if man's conduct in this world was not up to the standard; the modern preacher of to-day preaches that a deviation from correct standards will bring punishment in this world and in this generation; he preaches an ethical course of conduct which will help to preserve this generation and improve posterity.

Medicine of twenty years ago was also very dogmatic. The doctor of that time was a sort of "Bogie Man," who prescribed his nostrums without explanation, and who was more feared than respected by his patients and by the people at large. The doctor of to-day has taken on a rather different course of conduct. He is willing to give the whole public the whys and wherefores for his prescriptions and dicta. He aims to educate the people along physical lines of conduct so that disease may be prevented rather than cured after its occurrence.

If theology, teaching a correct ethical line of conduct, and medicine, teaching a correct physical line of conduct, will meet upon common ground, a great deal will be done in the coming generation to eliminate both crime and disease, and incidentally to do away with numerous cults which have sprung up and gained considerable prestige by seizing this common ground. W. C. V.

## MEMBERS REGISTERED AT THE FORTIETH ANNUAL MEETING.

Archibald, R. A.; Adams, L. P.; Alderson, H. E.; Asay, J. L.; Abraham, Henry; Atkinson, A. A.; Arnold, Dennis; Aiken, Geo. A.; Abrahamson, Milton; Aaronson, Howard.

Briggs, W. E.; Blake, Chas. R.; Barr, J. H.; Bine, R.; Broderick, R. G.; Barbat, J. H.; Bergener, T. J.; Bering, R. E.; Brown, Adelaide; Bertram, S. H.; Braincrd, H. G.; Bramhall, R. N.; Baker, Fred; Bates, W. E.; Bush, C.; Brown, Phil King; Barlow, Jarvis; Blafle, W. F.; Beattie, H.; Butch, F. W.; Bissell, N. C.; Briggs, G. A.; Burnell, Sterling; Boxmeyer, Chas. B.; Barney, H. N.; Blade, S. N.; Binzingee, Dr. R.

Cluness, W. R.; Cameron, H. McD.; Cluness, Mrs. W. R.; Conden, A. F.; Craig, L. A.; Crumpton, H. J.; Cheney, W. F.; Clark, W. A.; Cohn, Robert D.; Christainsen, H. B.; Cross, W. W.; Culver, J. T.; Castelhun, Paul; Champion, J. A.; Cerf, A. E.; Cox, T. J.; Culver, Geo. de W.; Chipman, Ernest D.; Clarke, W. P.

Dawson, W. J. G.; Dukes, C. A.; Davis, G. W.; Doherty, S. McL.; Dufficy, G. W.; Dozier, E.; Dunn, C. C.; Dickson, Ernest C.

Ellis, H. B.; Edwards, T. C.; Eaton, T. J.; Ewer, Ed N.; Emerson, M. L.; Emiler, R.; Ebright, Geo.; Evans, Geo. H.

Fay, G. H.; Forrest, R. A.; Fay, F. G.; Friedlander, D.; Fraser, W. W.; Faris, C. M.; Fischer, Martin H.; Franklin, W. S.; Foster, N. K.; Fleishner, E. C.; Frisbie, E. G.; Frost, James.

Green, J. S.; Gross, Louis; Gauger, Geo. Robt.; Gregory, L. C.; Gibbons, C. H.; Gibbons, Morton R.; Goodman, M.; Gibbons, H. W.

Henderson, A. M.; Hamlin, O. D.; Hoisholt, A. W.; Holzheiser, G.; Hogan, Jas. J.; Hoisholt, Mrs. A. W.; Horn, Henry; Hoag, Ernest B.; Hart, A. C.; Haworth, M. W.; Huntington, Thos. W.; Hildreth, H.; Houston, Albert; Hastings, H. W.; Henrikson, G.; Hesser, Geo. T.; Hibbard, W. E.; Hickman, W. S.; Hatch, F. W.; Hand, J. C.; Horthington, Geo. B. Iglick, S.

James, J. W.; Jones, C. B.; Johnson, W. S.; Jacobsen, P. N.; Jesse, J. W.; Jones, Philip Mills.

Kylberg, H.; Kress, G. H.; Kenyon, C. G.; King, Jno. C.; Kruell, Frank J.; Kelly, A. S.; Kellogg, D. A.; Kuser, J. H.; Krotoszyner, M.; Kerr, W. W.; Kusel, E. A.

Lockwood, C. D.; Long, G. L.; Lucas, W. T.; Leech, C. R.; Lum, W. T.; Langdon, S. W. R.;Lilly, J. F.; Look, H. H.; Lindsay, W. K.; Liliencrantz, G. H.; Lilley, W. E.; Lobingier, Andrew S.; Legge, Robert T.; Loper, A. N.; Loizeaux, E. S.; Lyle, A. G.

McCoy, Geo. W.; Moseley, G. G.; Moore, W. L.; McConnell, C. D.; McKee, C. B.; Milton, J. L.; Morton, A. W.; Merssed, F. R.; McKee, J. A.; McCleave, T. C.; Molony, M.; Mackay, J. Gordon; McDonnell, C. H.; Medros, J. J.; McCoy, J. W.; Moulton, D. H.; Manson, Peter; Marvin, G. D.; Moyer, J. J.; Moffitt, H. C.

Newton, F. C.; Nelson, J. E.; Nichols, H. L.; Newton, F. Louise.

O'Neill, A. A.; Osborne, A. E.; O'Neill, Mrs. A. A.; Oliver, H. R.; Olmsted, R. C.

Parkinson, J. H.; Powers, L. M.; Peers, R. A.; Pitts, E. H.; Porter, Langley; Powell, David; Power, H. D'Arcy; Poore, Jas. E.; Parker, Hal. M.; Priestley, S. F.; Pearson, R. G.; Peterkin, G. S.; Pischel, Kaspar; Peery, T. P.

Rynesberg, M.; Russ, R.; Rosenberg, C.; Rattan, Frank; Richardson, N. E.; Rowell, H. N.; Reise, O.; Rooney, R. F.; Rixford, Emmet; Rogers, F. L.; Rees, R. E.; Reinstein, A. H.; Rooney, Henry T.; Roth, Leon J.; Rigdon, R. L.; Roberts, Wm. H.; Rose, —; Rand, H. T.; Ray, D. F.

Stoddard, T. A.; Strong, —; Simpson, Wm.; Snow, W. F.; Sprague, F. F.; Somers, G. B.; Stafford, A. A.; Simmons, S. E.; Simmons, G. L.; Steinwald, O. W.; Spencer, Geo. A.; Stone, A. B.; Simmons, G. C.; Smith, Dudley; Stephens, J. Millar; Spencer, John C.; Sandholdt. J. P.; Slaughter, K. J.; Silverberg, M.; Stillman, Stanley; Shannon, J. M.; Schmoll, E.; Sheffield, H. H.; Seavey, Minnie A.; Shmitt, L. S.; Strader, H. W.; Stansbury, O.; Smythe, Margaret; Sherman, H. M.

Temple, J.; Tucker, G. E.; Temple, Mrs. J.; Taylor, A. M.; Thompson, C. E.; Turner, E. C.; Thomas, Hayward G.; Tebbe, Frederick H.; Thorne, W. S.; Thorne, I. W.; Twitchell. Ed. W.; Tapp, F. W.; Terry, W. I.; Tabbott, O.

Voisard, F. X.; Von Adelung, Edward; Vecki, V. G.; Vanderpool, M. F.; Van Voorhies, G. R.; Voorsanger, W. C.

Ward, B. B.; Wills, Wm. L.; Wills, Mrs. L.; Welty, C. F.; Wintermute, G. P.; Wright, Henry E.; Wilcox, W. J.; White, G. A.; Watson, W. S.; Walker, J. R.; Walker, B. F.; White, C. M.; Weil, Conrad; Wilder, E. M.; Ward, W. N.; Weddle, Chas.; Wunkle, G. S.; White, J. W.

Zobel, A. J.; Zermier, Irving S.

JAMES H. PARKINSON, M. D., PRESIDENT
1909-10.

Dr. Parkinson was born in Dalkey, County Dublin, Ireland, October 28, 1859, his father being Henry Parkinson, barrister-at-law, and his mother, Henrietta Flood. Both his grandfathers were physicians and one granduncle, whose name is usually associated with Flood's interarticular ligament of the shoulder joint. He received his education at private schools passing the entrance examination of the Royal College of Surgeons, Ireland, from Kingstown school. He then entered the Ledwich School of Medicine, Dublin, of which he was senior medical and senior surgical prizeman, and the Meath Hospital and County Dublin Infirmary, where he served as "Resident Surgical Pupil," obtaining the junior surgical prize. He assisted in the establishment of the National Orthopedic and Children's Hospital, Dublin, and later served as its first house surgeon. In April, 1879, he received the license of the Royal College of Surgeons at the age of nineteen and the following January the licenses of the Royal College of Physicians, in Medicine and in Midwifery. He also holds the diploma in midwifery of the Rotunda Hospital. Immediately after qualifying, he made several voyages to sea as ship's surgeon, serving in the firms of Lamport & Holt, Alfred Holt and the Canada Shipping Company. In 1882 he came to California, settling in Sacramento, where he has since resided. In 1884 he was elected city physician and served for four years, during which time he was instrumental in establishing the present City Receiving Hospital. In 1893 he was appointed to the City Board of Health, and is still a member of that body, having been elected president in 1906. He was appointed a member of the State Board of Health in 1909. He is a member of the Sacramento Society for Medical Improvement, serving as secretary and treasurer from 1884 to 1888 and being elected president in 1891 and of the Northern District Medical Society, serving as president in 1905. He was elected a member of the State Society in 1883 serving as assistant secretary for several terms and later being elected treasurer and then councillor. He joined the American Medical Association in 1884 being the "first member by application." He is also a member of the British Medical Association and of the Irish Medical Schools and Graduates Association.

In 1887 Dr. Parkinson founded the "Sacramento," later the "Occidental Medical Times," and continued as its editor until it ceased publication in 1904. Dr. Parkinson was elected president of the State Society in April, 1909, and president at the sessions at Sacramento, April, 1910.

# AN ADDRESS, DELIVERED AT THE FORTIETH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA, HELD IN SACRAMENTO.

By JAMES H. PARKINSON, President, Sacramento.

The Presidential address, like the beard of the oyster, seems an inevitable concomitant of our annual meetings. I am far from implying that it is a useless appendage, for many excellent papers have been presented to this Society. The address is that, in fact, which the President makes it, if not a measure of his capacity, at least an index of his thoughts, and always an earnest of the good nature and friendly feeling of the Society.

It is not my purpose nor my intention to present a formal address, but rather to bring before you as briefly as possible an urgent question or a point of view, as you may regard it.

"*The Physician in His Relation to Public Life.*"

By "Public Life" I do not necessarily mean political activity, though, in our country, the terms seem almost synonymous, nor would I exclude this branch or phase of the question which more or less entwines itself with my original proposition. I mean more directly or more cogently the association with public movements, the leadership in those directly within our sphere, an activity in all matters of public health, an insistence upon measures and steps in relation to preventive medicine in which the welfare of all the people is concerned.

That we as physicians neglect and even ignore this great field is self-evident; that the leaders of the profession abandon to men of poor equipment and inferior attainments this tremendously important work, can be seen on every side. Too often our best men adopt an attitude of cynicism, an atmosphere of pessimism, without making one brief effort to lighten the gloom which they protest invests their professional vision.

What is the result? We, as a profession, do not occupy in public affairs the position we should justly fill, while civic, State and national public life all suffer from this torpor of inactivity. Nor is this canker of desuetude confined to the United States, for, along parallel lines, Great Britain and other countries have blundered with ourselves in failing to recognize the enormous potential for good that a somnolent profession contained.

I allude here more particularly to military medical service, as it demonstrates on a vast scale the horrors of neglect and the tremendous benefits of preventive medicine, when intelligently and capably applied. I would illustrate my story by brief references to and very general comparisons between three modern wars: The campaign of the British in South Africa, the expedition of the United States to the West Indies and the war of Japan on the North Pacific Ocean and in the Northern provinces of China.

For purposes of discussion, these three campaigns can be placed in two groups. On the one hand the Anglo-Saxon race, with little to choose between and less to be proud of, and on the other an Oriental nation born to its present opportunities through the services of Commodore Perry and the American Navy.

I confess that the inspiration of these remarks, perhaps the crystallization of thoughts that have dwelt with me for many years, was the reading of Dr. Louis L. Seaman's book, "The Real Triumph of Japan." This remarkable narrative of achievements which have startled the entire world is known to you all. Bit by bit the preliminary fragments of information drifted from battles on land and sea, to be received at first with incredulity and then with amazement. Results never deemed possible were here accomplished facts. Achievements of modern medicine and surgery hitherto confined to well-equipped hospitals in civil life, were now equalled in the sick bay of the battleship in a great battle upon a tempestuous ocean. Nor were the triumphs of medicine and surgery confined to the sea, for on land, in Summer and in Winter campaigns, in engagements lasting for days, and in hospitals close to the firing line, these marvelous results were duplicated.

It may be said that discipline and diet, are in part responsible for epoch making results, yet this is indeed sorry comfort. If it be a lower standard of discipline, we are only in small part responsible, but if diet bear its share, then we must carry, in part, the burden of obloquy. Do the little brown men of Nippon whom we have taught modern medicine, and who in turn are teaching us, know more of our science and our art? Are there not many before me to-day, just as capable of doing such work and of doing it well? Certainly this is so, yet why have we such widely divergent results? Is it not, that the Japanese knew what to do, and did it, while we, equally qualified, utterly failed in accomplishment?

If the results on our battlefields were disastrous, from a modern standpoint, what can be said of the ghastly record of the reserve camps? Here were normal, healthy young men, assembled in peaceful camps in their own country, to fall victims by the thousands to a preventable disease. Calloused as we are by centuries of such records in Anglo-Saxon warfare, is it not time that the profession call a halt on such findings? Is it possible, or do you believe, that a fairly equipped health department, in any American city, could, on an equal scale, approach the horrors of Montauk Point, which lie at the door of the Medical Department of the U. S. Army, regular and volunteer? Far be it from me to question the character and attainments of the Medical Corps of the United States Army, its personnel is of the highest; it is the fault of the system, not of the profession, and it rests with the profession to remedy this system.

For many years, a perfectly senseless and fatuous conflict has been waged in the British Army, between the so-called combatant and non-combatant officers on the question of relative and substantive rank. It would appear to the casual observer, that this contest rested mainly on a question of rank, or precedence, a matter of uniform and a form of salute. The financial element has, usually, had little

to do with the case. At times certain concessions were won, resulting in the peculiar hyphenated titles of surgeon-captain and surgeon-colonel, in which a painful effort was made to minimize the danger of an actual military rank.

In our own country similar conflicts have obtained, and we still struggle vainly with the simplest elements of an obvious proposition. Quite recently a warm controversy raged on the question of command of a hospital ship which a medical man had the temerity to assume was his proper sphere. This little incident illustrates as well as any the illogical absurdity of the situation. Here was a ship, fitted as a hospital, simply a hospital afloat, she carried the Red Cross, and was strictly a non-combatant, yet because this hospital was afloat and moving from place to place, a medical officer should no longer be in charge, his place should be taken by an officer of the line.

Reduced to ordinary dimensions, it might properly be argued, that in a modern hospital, the matron, the steward and the manager should direct the care and treatment of the patients. Similarly, in a private house, the master and the mistress of the house should supervise the details of an operation and be responsible for its results. These illustrations are not overdrawn, nobody questions that the sailor shall navigate his ship, or that the engineer shall control the motive power, yet neither have more to say about the conduct of a hospital ship than has the matron or the steward, to do with the medical aspects of a modern hospital.

With all our progress in the healing art, the opprobrium of centuries still remained, disease and pestilence slew more than the bullets of the enemy. This patent and obvious fact stands forth on army records everywhere, yet with its very obviousness, why could not the lesson be learned? It was not the bullets of the enemy that decimated the armies; it was the bacilli of disease. At times his brigades worked havoc with the ranks, but the bacteria of pathogenic processes, conducted a twenty-four hour campaign on every day of the year. How are these ravages to be met? By the trained medical officer, who can give force to his knowledge, in an authoritative order.

In simple terms it may be said that the triumph of Japanese naval surgery was due, mainly, to soap and water and clean clothes. An order from a medical officer, directing the very elementary detail of a full bath and clean clothes, from within out, was respected by the fleet. In other words, an order from the medical department, on a matter that was administratively medical, needed no further force to make it effective. Herein lies the key to the situation; it is the medical officer, as a real force in authority, accomplishing results.

In support of my position and as illustrating the conclusions, that must inevitably be drawn therefrom, I will quote, at some length, from Seaman's book, where facts and figures are set forth in detail.

For two hundred years, the accepted ratio of mortality in war has been four from disease for every one from bullets. In the war with Mexico and in the Civil war, the rate was about three to one. Coming down to later times, in 1894, the French campaign in Madagascar, shows that of 14,000 sent to the front, twenty-nine were killed in action and 7,000 perished of disease.

In the Boer war, in South Africa, the "losses from disease were simply frightful." Eight times the number of wounded were invalided home on account of disease, while the deaths from disease were seven times the deaths from wounds. Eight-tenths of this mortality was due to infectious disease and there were 24,000 cases of dysentery and 31,000 cases of enteric fever.

"But the crowning piece of imbecility was reserved for our war with Spain, where in 1898, fourteen were needlessly sacrificed for every one that died from battle casualties."

In the Russo-Japanese war we have the following figures:

Killed and died from wounds.....52,946
Died from all diseases.....11,992

"More than four deaths from bullets to one from disease," a complete reversal of the record of centuries, a betterment of 800 per cent. Dr. Seaman well says: "This record is, I believe, unparalleled and unapproachable in the annals of war."

Instead of a majority of the cases of disease being infectious as in South Africa, the percentage was 3.51. About half the total sick, in the army, were cases of beri-beri which the Japanese had already succeeded in wiping out of their navy.

As a commentary upon our conduct of the Spanish-American war, I will quote again from Seaman some passages that illustrate the lamentable failure, in personal and camp hygiene, food, clothing, and, above all, care of the wounded. "Think of it, in a campaign where troops penetrated only seven miles from the sea that army was almost wiped out of existence, because it had insufficient transportation, insufficient food, insufficient shelter, insufficient medical supplies, insufficient medical attendance, and the United States was less than three days away by fast ships."

"Listen to what Kennan says about the hospital camp established just before the battle of Santiago. 'The hospital staff (the main field hospital) at the beginning of the first day's battle, consisted of five surgeons. The resources and supplies outside of instruments, operating tables and medicines were very limited. There was tent shelter for only about one hundred wounded, no cots, hammocks, mattresses, rubber blankets or pillows for the sick or injured. The supply of army blankets was very short and soon exhausted. There was no clothing, except two or three dozen shirts. For hospital food for sick or wounded, there was nothing except a few jars of beef extract and malted milk, which was private property.

" 'As the day advanced the wounded rapidly increased until, at nightfall, long rows of wounded were lying in the grass in front of the operating tent, without awnings or shelter, awaiting treatment. The small force of surgeons worked heroically and with a devotion that I have never seen

equalled, but they were completely overwhelmed by the great bloody wave of human agony that rolled back in ever increasing volume from the battle line. Hundreds of seriously wounded man lay on the ground for hours, many of them half naked and nearly all without shelter by day or night. No organized or systematic provision had been made for feeding them or giving them drink, and many a poor fellow had not tasted food or water for twelve hours, exposed during that time to the glare of a tropical sun.' Of course the wounded who had been operated upon, or the greater part of them, had to lie out all night on the water-soaked ground."

"Many of the wounded were brought three miles to the hospital, in a jolting ambulance or army wagon. They had lost their upper clothing, at the bandaging stations back of the battle line. They arrived, consequently, half naked and as the limited hospital supplies were soon exhausted, there was nothing to clothe or cover them. All that a little squad could do with a man when they lifted him from the operating table, was to carry him away and lay him down, half naked as he was, on the water-soaked ground, under the stars. There he had to lie in the high, wet grass, with no one to look after him, no one to give him food and water if he needed them, no blanket over him, no pillow under his head." Seaman well says: "Would not that narrative bring tears from a stone? Would it not cause the hardest heart to bleed?"

The fact remains, that "owing to bad management, lack of foresight, and the almost complete breakdown of the Commissary and Medical Departments of the Army, our soldiers in Cuba suffered greater hardships and privations in certain ways, than were ever endured by an American army in the field." "Seventy-five per cent of the army was incapacitated for active service, after less than six weeks in the field." For this a ration, consisting principally of fat bacon, salt beef, tomatoes, frequently in a state of fermentation, due to the intense heat, canned beef and hard tack, was largely responsible. Picture to yourselves if you can, such a diet for a campaign in a tropical country. "Out of a mean force of 167,168, the majority of whom stayed in home camps, 158,460, or 95 odd per cent, were admitted to the hospitals. The Japanese in an equal period of time had but 15 per cent, represented by men who were fighting in the field exposed to the greatest hardships and rigors of war."

In the Crimea, in our Civil war, in the Boer campaign and in the Spanish-American war there is little variety except that at times the record is worse. Always there is the story of sickness and deaths, far outnumbering the inevitable casualties of war, and all from preventable diseases.

Is this the heritage of the Anglo-Saxon race? Is this our fate or our destiny? What a commentary on the horrors and miseries of warfare that we make no intelligent effort to prevent an overwhelming percentage.

What steps have we taken to obviate the recurrence of such catastrophes? Little or none perhaps, and here I come to the point of this address, for which our disastrous military record has been used as an illustration: It is time that the profession declare itself. It is time that it does its duty by its people in demanding and in obtaining reform. Rightly put, and promptly followed home, it will meet with unquestioned success.

The United States Army needs a medical corps, established on lines that have been so singularly successful in the Japanese Army. A medical department which shall have administrative and executive functions in its own sphere. Its military rank as far as command and authority is concerned should be graded with that of officers of the line. Its commanding officer should be represented in the general staff. This is a perfectly obvious and common sense fact and if military authorities cannot grasp it, the people, the source of all power, can be made to see it.

Medicine is coming more and more to a scientific basis, more and more is it reaching the standard of an exact science. The public realizing the tremendous advantages of preventive medicine, the enormous economy due to uninterrupted commerce, is ready and apt for any lesson.

The menace of yellow fever in the south has been investigated, demonstrated to absolute knowledge, and, as a decimating scourge, annihilated. Plague, after centuries of experience and centuries of ignorance and misapprehension, has been traced to its source, to be controlled, as we have seen in California, by intelligent sanitation. Malaria can be eliminated from any locality, if only the public will pay the bills.

Bacteriology with its endless record of proved demonstrations, serum therapy, vaccines in their different relations and antisepsis, all triumphs in the field of prevention, are familiar to the public. Never has there been a time when the people were more willing to listen and to learn. Never has there been a period when the people have felt the need as well as the value of sanitation and health protection, as at this present day.

Are we as a profession doing our full duty to the public or to ourselves in this twentieth century? I think not.

We believe in vaccination, we know that it alone can stamp out smallpox. Why do we allow the opprobrium of a loathsome disease to continue, in the presence of a half-hearted vaccination, to the discredit of an absolute preventive? Why not force this question of vaccination, so that the public shall obtain its benefits or assume the responsibility of its rejection?

We have begun to do something with tuberculosis and none too soon, but the public has been awakened to the "Great White Plague," and we shall now see substantial progress.

What can be said on the question of venereal disease? How long have we been silent here? We know its secret ravages, its menace to the unborn and to future generations. We know the facts. As medical men, we know that the prostitute is, to-day, a sexual necessity; that the sisterhood is, in a measure, a protection to more fortunate womankind.

Cannot we teach the women, as we surely can demonstrate, the evils of unrestricted vice, with its perils to husband and son and, in turn, to wife and daughter? Is it not possible to wipe out the sophistries with which "the social evil" has been surrounded; and to put a check upon the propagation of disease and its transmission, often ignorantly and unthinkingly, to thousands of innocent and unsuspecting victims? It *is* possible. The task is a gigantic one, with sentiment, prejudice and even religion against us, but let us face it like men and we will surely win.

Throughout this broad land, thousands of physicians are giving their time, their brains, and their energies, to the prevention of disease, the preservation of health and, incidentally, to the diminution of their private incomes. Work of this character, so valuable and so far-reaching, should be properly compensated; at least adequate funds should be provided in every community for necessary sanitary work.

We need a department of public health with a trained medical officer at its head. We can get it through an organized profession, by machinery which makes it possible to reach the public.

Let there be no mistake in this, if the medical profession will only speak earnestly and with conviction on any subject it is certain of a respectful hearing and of results.

There is no profession or calling to-day, I make no exceptions, that stands closer to the people than medicine. No profession is less tainted with the suspicion of graft or of selfishness. The universal benefit of medicine "to every man according to his needs," the enormous charity of the profession, its constant efforts to prevent disease, are admitted and recognized. The field is ripe, the profession is becoming organized, the time for action is *now*.

Let me in conclusion, repeat the text of my remarks, "The Physician in His Relation to Public Life," as I urge you to higher deeds. Let every man in his own community and in his own sphere, deal with his people as he finds them. Let him but preach the doctrine of scientific medicine and of sanitation in all seasons. Let the leaders in our profession, when occasion demands, unite to demonstrate a position or to enforce a truth.

Then, backed by an organized profession, is it but a dream? Nay, will it not become a reality that medicine with its ever-growing knowledge in a godlike calling will shine with increasing effulgence until like a great sun it will illuminate the dark corners of defective sanitation, therapeutic ignorance and medical superstition, throughout the world.

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## A REPORT OF THE PRESIDENT.

To the House of Delegates—

Gentlemen: I had been under the impression that a report to the House of Delegates was part of my presidential duty. Inquiry from our experienced Secretary revealed the fact that I was under no obligation to present a report, but that "he saw no objection to my doing so if I desired." Believing that there were some points to which it would be well to direct your attention, I submit herewith my findings.

Shortly after assuming the duties of this office, it occurred to me that it might be somewhat helpful, in the general work of organization, if the President could visit and, as it were, inspect as many of the county societies as possible. This idea met with the approval of the Council and with the warmest cooperation on the part of individual Councilors. A schedule was arranged, and during the months of February and March I visited and met with the following county societies, at the places and on the dates named:

Los Angeles at Los Angeles, February 4th.
San Bernardino at Redlands, February 5th.
Riverside at Riverside, February 5th.
San Diego at San Diego, February 6th.
Santa Barbara at Santa Barbara, February 7th.
San Francisco, February 8th.
Butte at Chico, February 13th.
Alameda at Oakland, February 15th.
Yolo at Woodland, March 2d.
San Joaquin Valley at Fresno, March 8th.
Sonoma at Santa Rosa, March 10th.
Contra Costa at Richmond, March 13th.
Santa Clara at San Jose, March 16th.
Placer, Nevada, El Dorado and Sierra at Colfax, March 19th.
Yuba and Sutter at Marysville, March 22d.
San Joaquin at Stockton, March 25th.

At nearly every place named the meetings were well attended, and the President was most hospitably received and always given an attentive hearing. The officers of the local societies and the Councilor of the district, when present, made a personal effort to procure a good attendance and, with only two exceptions, were singularly successful. This personal experience with our organization will remain as the pleasantest memory of my term of office.

I will briefly refer to some points in connection with this inspection. First, medical organization in California, as far as the basal unit, the county society, is concerned, is an accomplished fact. It rests with the officers and members of this society to maintain its efficiency and to extend its influence. The benefits of professional intercourse among physicians are too obvious to need enumeration here, but at the various meetings I discussed with the members the salient points in this connection and the necessity of interdependence between State and local organizations.

The difficulty in maintaining even a semblance of organization in counties where the few physicians practicing therein are scattered over miles of territory, is evident. There are, however, some counties perfectly able to support societies in which attempts at organization seem constantly to fail. Of these, the southern end of the San Joaquin Valley is a conspicuous example.

It is evident that successful work in the State Society depends upon the character of the membership in the local societies. In the wider field of

public work, where the whole profession is concerned, the value of the relation of the State organization to this sphere will be governed largely by the volume of membership in constituent societies that it represents.

The question has been asked me from time to time "What do I get in return for my membership in the State Society"? I have been able to answer truthfully that for a membership and subscription fee of three dollars, the returns have been very large. Membership in the Society; the opportunity of attending an annual meeting with an excellent scientific program; a monthly Medical Journal, certainly equal to similar publications of other States' Societies; a State Medical Register and a Medical Defense Association seems a large return for the annual subscription. I hope the time is not far distant when an increase of subscription to five dollars annually, would place all the foregoing on a firm basis and permit the addition of a medical benevolent fund.

In visiting the different County Societies, I have taken up the question of medical legislation in order to obtain a consensus of opinion. I find that, on the whole, the profession favors the present law. Many, however, believe that the question of illegal practice is not being dealt with in the proper manner or with the necessary energy. As this is a positive duty of the Board of Examiners, I trust that our representatives will have some explanation to offer. Let me remind the Society that there will be a session of the legislature next January and that it is well, at this time, to prepare for assaults upon the law.

It may be asserted axiomatically that there are but two courses open in the matter of medical legislation. (1) To legislate only for the regular profession on the highest possible scientific basis. This carries with it, the condition that any sect 'pathy or 'ism, having medical or therapeutic form, must be left unrestrained, save by such legal recognition as it may seek. (2) To combine under one act and with one examining board all forms of medical practice. I believe that this, as represented by the present law, is by far the best method. By all means let us uphold it.

Assaults upon the medical law, by those operating under its provisions are, in my observation, largely due, not to the law itself, but to its administration by the Board of Examiners. I have every reason to believe that the present board is giving a fair measure of satisfaction. The task of upholding the law becomes thereby an easier one during the season of legislative strife.

There are three main points upon which amendment to the law has been sought. (a) Free appointment by the Governor. (b) Reciprocity. (c) The 70% exemption from re-examination.

On the first point I believe there should be no change. The experience of all the years in California shows that the public and the profession alike, have nothing to gain, and everything to lose, by a different policy.

On the question of reciprocity it cannot be disputed that whenever and wherever possible, on equal terms, this should be adopted.

The 70% clause, by which is meant, that a candidate passing in all subjects but one, with an average of 70% or over shall be re-examined only in the subject in which he failed, is reasonable, and should be conceded.

I would earnestly recommend, that this House of Delegates choose its legislative committee after due deliberation and then, either give it specific instructions, which shall be binding or else trust to the committee's judgment, when on the ground, as to the best course to pursue in maintaining the present law.

The question of the publication of the Register seems to have had a remarkable psychological effect upon the Society. I say remarkable, because members seem to have forgotten their own deliberate action, and at the same time have overlooked the perfectly obvious aspects of the case. When Mr. Kaplan, who for several years, under agreements and written contracts, had published and distributed a medical Register for the Society, submitted a proposition to publish a quarterly Register with a possible "Medical Journal Annex," the House of Delegates promptly rejected it. (Vide, Report of Reference Committee, Section 24, page 166, JOURNAL for May, 1909.)

When Mr. Kaplan submitted his proposition to the Council last Fall, this time with a positive "Medical Journal Annex," he was informed in writing, that the Council could not consent to same. When Mr. Kaplan proceeded with his publication, he was warned in writing, that he was violating his contract with the Society. When Mr. Kaplan, in the face of the foregoing, issued his first edition the Council commenced suit against him, and on April 11th obtained a temporary injunction.

Mr. Kaplan has therefore broken his contract with the Society, ignored the House of Delegates, defied the Council, and irretrievably ruined the prospect of a Medical Register for the present year.

There has been some criticism of the Society's Journal, as to standard and material. While the officers of the Society, are in a measure responsible for the conduct of the JOURNAL, they do not furnish the material. The literary value and standard of the reading matter rests solely with the Society and its improvement depends entirely upon the ability of the membership to produce. With a view to assisting the editor in matters of editorial expression, I took much pains in selecting a committee on publication. You must judge the wisdom of the selection by the results.

In conclusion, let me say, that the work of the Society is for the many and not for the few. This applies equally to the conduct of the Society's Journal. At times men of unquestioned scientific attainment acquire a spirit of pessimism, and in turn radiate an atmosphere of discontent.

This is not wise nor rational nor sanitary. Does it not occur to some of these good men that a uniform standard of the highest excellence might

become monotonous? Even our medical planets who shine by contrast, would be lost, in the obscurity of a universal illumination. Absolute goodness itself becomes monotonous, even a feminine angel would soon cease to be a desirable associate. Let us all contribute in work and in spirit, to the common fund of effort, in as large a measure of tolerance as our temperaments will permit. Keep ever before you, the good of the profession and the advancement of the Society and if you be true to this ideal, "it follows as the night the day, you cannot then be false to any man."

JAMES H. PARKINSON,
President.

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## REPORT OF THE SECRETARY.

To the President and Members of the House of Delegates.

Gentlemen:

In presenting this report I wish to explain that its length and detail are due to a request from some members of the Society that the financial condition be fully explained and our present condition made clear. I have brought here all the books and accounts together with the auditor's reports covering the last five years. Our present system of accounting and auditing began in May, 1905; the records and accounts prior to that time were destroyed in the fire of 1906.

It was just ten years ago, in 1900, that I retired as Secretary and Dr. George H. Evans was elected; at the meeting that year the matter of reorganizing the Society was favorably discussed but no action was taken. There were something like 250 members.

In 1901, here in Sacramento where we are meeting to-day, a committee was appointed to draw up a constitution and by-laws along the lines of our present document. The Secretary, Dr. Evans, also urged the founding of a journal which should take the place of the annual volume of transactions; no action was taken at this meeting, however, owing to the active opposition of certain members interested in existing journals.

In 1902 a new constitution and by-laws were adopted and the present plan of basing membership upon the County Society as the unit, was adopted. The Council was also authorized to establish a journal if they saw fit. This proposition was discussed at several meetings of the Council and in August it was finally decided to undertake it; I was requested by the Council to take the editorial control and begin the publication of the journal. The first number was issued in November of that year and contained pitifully few advertisements. It was not yet known how the new plan would work out, how much the membership would grow nor what the success of the journal idea would be. But both Dr. Evans and myself were very sanguine and on the Council were some who also had faith in the new order of things.

In 1903 Dr. Evans reported that 13 County Societies had affiliated and that four had been organized for that purpose, representing 955 members; there were also 141 other members of various classes. It was apparent that the plan of organization needed considerable adjustment so a committee was appointed to draw up a new document, of which committee I was Secretary. In the Fall of this year an organization committee of the Council was appointed and I was authorized to go about the state organizing new County Societies. Dr. Kenyon, who has been continuously Chairman of the Council since its formation, and Dr. Evans, the Secretary, were most energetic in the work and always attended the meetings which were arranged from time to time. Some of these were most discouraging, at first, but eventually most of them turned out well. The Society being somewhat chaotic, and having very little money, was rapidly going into debt to keep up the Journal and the organization work, but by this time the Council was practically unanimous in its belief in the successful outcome of the undertaking as the value of the JOURNAL in supporting organization matters, was quite evident.

In 1904 Dr. Evans reported that 14 new County Societies had been formed giving a membership in County Societies of 1446 and a total membership of 1553. At this session the present Constitution and By-Laws were adopted. The Secretary, Dr. Evans, again and most emphatically called attention to the value of the JOURNAL in the work of prosecuting organization and keeping members in touch. It is not possible to give the exact financial condition as the accounts were subsequently destroyed and the published reports are merely fragmentary. However, it was not good. The Publication Committee reported a probable loss on the JOURNAL for the next year of some $1825, and there was a considerable debt already accrued. At this meeting Dr. Evans gave up the Secretaryship and I was elected his successor. The membership is not recorded but it had grown somewhat and a few more County Societies had been organized during the year.

In 1905 it was reported that the JOURNAL had gained more than $1800 over the estimate of the previous year. There were 1626 members. The Council recommended that we borrow $2,000.00 for a period of years and thus get rid of our floating debt and be in a position to take advantage of cash discounts, etc. This was approved and the money borrowed in June of that year. The Secretary, myself, not wishing to have the responsibility of an audit, perhaps hastily made, by members of the Society, introduced a resolution calling for an annual audit by a professional accountant, and that his bonds be increased. This was done. In this year the fight against reduction in fees for insurance examinations was begun and eventually most of the companies have yielded to our merely just demands.

A very memorable fact is to be noted in 1905. At the Portland meeting of the A. M. A., a plan was adopted which a few months later developed into what is now the Council on Pharmacy and Chemistry, and the movement to clean up

the advertising pages of the *Journal* of the Association, for which we had been fighting ever since the first number of your JOURNAL appeared, had its beginning. It is well to note that your JOURNAL discontinued its attacks upon the *Journal of the A. M. A.* in the Summer of 1905, as we felt sure that the Association could not go back of its action of that year. At this time, also, a truce was declared between Dr. Simmons and myself; the reason why this is here mentioned will appear later.

In April, 1906, there were reported 35 affiliated societies with a total membership of 1777. We owed, at the beginning of that year, some $3,000.00, but the JOURNAL was in a most flourishing condition, showed a profit of about $100.00 a month and $1,000.00 increase in business for the past year. The Council recommended that the JOURNAL be issued semi-monthly beginning with the first of the coming year. The next day after these reports were made, we lost everything we had in the world except the books and accounts from May, 1905, to date. In September, 1906, I wrote a letter to our advertising solicitor, Mr. Kaplan, telling him that there was no money in sight with which to pay further advertising commissions and that we could not be responsible for any; but that if he chose to take his chances of getting paid and to solicit renewals or new business on that basis, I would be glad to have him do so. This is important, as will appear later, and the letter was approved by the Council and spread upon its minutes at the next meeting of that body. When the accounts of that year were audited, this fact was called to the attention of the auditor and as we had notified Kaplan that we could not pay him, no advertising commissions were included in the statement of assets or liabilities on December 31st, 1906.

Immediately after the fire I consulted with Dr. Kenyon, Chairman of the Council, and with some other Councilors and on their advice went ahead with the work of rehabilitation, trusting to luck and the future to pay the bills. In May, Dr. Evans and myself made a verbal contract with Mr. Kaplan to publish the Register for that year at his own risk; he to get what he could out of the advertising. Late in the Fall a meeting of the Council was held at which it appeared that Mr. Kaplan had called upon several of the Councilors, had seriously reflected upon my management of the Society and of its JOURNAL and had proposed that he be made business manager of the JOURNAL. It is of record that the Council voted unanimously to dispense with Mr. Kaplan's services and a committee of the Council was appointed to consult an attorney in the matter of the adjustment of Mr. Kaplan's claims. I was the only person present who was in favor of continuing Mr. Kaplan as advertising solicitor. In spite of the fact that we received something over $1,000.00 in donations for relief, the end of 1906 found us heavily in debt; we owed $3,909.44 and our excess of liabilities over assets was $2,176.26.

In 1907 the President reported that the Society had lost, through the fire and its consequences, $3,707.19. The Council reported that the prospects were not so gloomy as the financial condition would indicate because we were slowly but surely picking up. That this attitude was justified is shown by the audit at the close of 1907, at which time we owed but $2,912.28, and our excess of liabilities had been reduced to $476.82. In the Summer a contract was drawn up by our attorney authorizing Mr. Kaplan to publish the Register as he had the previous year—at his own risk and expense. In passing, and so that it may not be referred to again, I may say that the same contract was renewed in writing in 1908 and 1909. But little organization work was attempted during this year on account of lack of funds. The financial panic in the Fall hurt us considerably as some of our advertisers failed and others withdrew their advertisements. But in spite of this fact the audit at the close of the year showed a fair amount of reduction in our indebtedness; although the receipts from the JOURNAL were some $1,300.00 less in 1907 than in 1906.

In 1908 the President reported that we had 1817 members and had lost 7% of our membership; he urged renewed activity in the matter of organization. Financial improvement was slow but sure during the year, and the audit at its close showed that we owed but $2,447.12 and had reduced our excess of liabilities to $370.89.

In 1909, April 15th, we had 1858 members; on the 31st of December we had 1954 members. At the meeting of that year the issue of $100.00 notes was authorized; this will help us materially in reducing our indebtedness. The audit for last year, which is in your hands, shows that we have reduced out indebtedness to $2,040.00 and that, for the first time since April 1st, 1906, we show an excess of assets over liabilities, this amounting to $121.90. It is not a startlingly large amount, but perhaps you do not think that it has taken hard work to make it. During the year the Secretary reduced his salary $500.00, and you will note that what we gained last year is but $80 above this amount. Members assessed during the year, 1924; 30 joined after August 1st and so were not subject to assessment. Twenty-five members died in 1909. The Council has reported to you the undertaking of Medical Defense; this, properly used by the Secretaries of County Societies, should be a powerful argument in increasing our membership. Receipts from the JOURNAL advertising decreased $121 in 1909, partly due to confusion resulting from the appropriation of our Register by Mr. Kaplan, and his representations that his quarterly publication was an official utterance of the Society. Thanks to the energetic work of Dr. Bering, we have more than regained these losses and 1910 will show an increase in advertising receipts. If every member would co-operate with Dr. Bering and help his own JOURNAL, we would soon show a material increase in income. All that is necessary is for each member to say to every detail man or book agent who calls upon him, "Does your house advertise in our JOURNAL, and if not, why not?" Is that so very difficult? Is it beneath the dignity of the most hypersensitive? The additional income that could

be secured if you would but make this slight effort could well be used in improving the JOURNAL. As it is, the number of illustrations is increasing and in several small ways some improvement has been made; help us, and much more can be made.

It is my pleasure to report to you that on the 1st of April we had but two items of indebtedness (aside from interest); $1,600.00 in notes and a bill of $413.65 for a consignment of paper just received and unused; a total of $2,013.65. At the same time we had cash on hand, $3,135.02, or a surplus, if our affairs were wound up, and without allowing anything for office fixtures, of $1,121.37. The prospects for the year are excellent. I think we shall undoubtedly be able to take up several of the one hundred dollar notes and then, if we find we are a little short in the Fall, we can make a short term loan from the bank as was done this last year.

In the matter of the distribution of expense items, I am in the same case as in previous years. I have talked this over with our auditors and they agree with me that, on account of the small amount of our business, it would not pay to put into effect any machinery for a separate accounting of the time spent by the employees on their different tasks. I mean, so much JOURNAL work, so much Register work, so much Society work. I do not know how much of my own salary should be charged to the JOURNAL and how much to the Society, and it hardly seems worth the effort of trying to figure it out. Therefore you will see in the statement the one item of salaries. We employ two girls who receive $1680.00; my own salary is $3,000.00. Last year the JOURNAL, not charging it with any salary items or crediting it with subscriptions from members, showed a net profit of $830.00. You will see from the auditor's statement that it costs a little over $300.00 a month to issue the JOURNAL, including paper, postage, etc. Any details which you would like to have will be cheerfully forthcoming. Would it be of interest to you to know how much is paid for illustrations, how much for postage, how much for incidentals? The facts, in all items, are immediately available if you desire them; there is nothing to conceal in or about the office of the Society and its JOURNAL. All accounts have been audited from year to year, and I have thus been released from responsibility and could therefore say to you, gentlemen, consult the auditor. But I do not wish to say that; I prefer to say to you that everything pertaining to the manner in which I have handled your affairs is open to you—everything is open and upon the table; look up anything you choose. These possibly peculiar words, and the personal ones which follow and with which I shall close this report to you, are prompted by certain facts.

As early as 1907, our advertising solicitor tried to get full control of your JOURNAL, but, as already related, he was ousted by the Council. I have been advised that for some time he has been anxious to acquire a medical journal and he has recently made an offer, referred to in the report of the Council, to take from you and from me the STATE JOURNAL, which I started at your request in 1902. Either to help him in this design, or for some other reason, he has said to certain delegates, as I am credibly informed, some things which reflect directly upon me and my honesty of dealing with you and with the Society. In some ways it would not seem necessary to mention this to you, but as I have always been absolutely frank in all matters relating to the Society, I think it my duty to put the allegations and the facts before you and ask that you investigate them for yourselves.

He has alleged that the accounts have been involved and that on one occasion they were falsified by withholding from the reported liabilities some money due him, which was afterward paid. The facts are that, as you know, we have been hampered from the very beginning with debt. This has to a certain extent complicated our affairs, but they are now, as I said years ago they would be in the course of time, absolutely straight and daylight is not far ahead of us. We began business with a chaotic society and a "shoestring"; what we have now I leave to your intelligence. The "falsification" he mentions must be the advertising commissions of 1906, heretofore referred to in this report.

Secondly, it is reported to me that he has alleged that I was paid money by Dr. Simmons, editor of the *Journal of the A. M. A.*, to stop the attacks in our JOURNAL on Dr. Simmons. The facts in this item are amusing. Our JOURNAL never attacked Dr. Simmons and in our attack upon the *Journal A. M. A.*, his name was never mentioned but once and then the statement was made that he was not responsible for the advertising in the *Journal*. Furthermore, we let up in this combat in 1905. I did, on one occasion, receive some money from Dr. Simmons. It was on April 23rd (I think), 1906, that I received a telegram from Dr. Simmons, not asking me if I needed help, nor telling me to draw upon him—though there were many who generously sent such telegrams—but advising me that he had transferred $100.00 to my account in the 1st National Bank, Oakland, and that the telegram would be identification! Need I say that the money was welcome, or that it was subsequently returned? Or that that was the only cent of money that ever passed between Dr. Simmons and myself? My personal accounts are as open to your inspection as are those of the Society.

Thirdly, it is reported that he has persistently stated that my management of the JOURNAL and of the affairs of the Society was not good and has said that it would prosper more in his kindly and unselfish hand. Without wishing to be conceited, I beg to call to your attention the facts. We began with nothing and but few members. Dr. Kenyon and Dr. Evans, who worked so closely with me during the early years, will recall the anxiety with which the starting of the JOURNAL was viewed by a number of Councilors, and how many of them looked askance at my statements that a good society could and would be formed, that the JOURNAL would eventually dig itself out of debt and that it would be a powerful instrument for the good of

the medical profession in this state. I merely wish to recall to you that we did reach a thriving condition, that we were destroyed, utterly and completely, that we have refitted and re-established the office and the JOURNAL, in spite of panic and of attack and of our exclusive advertising policy, and that to-day you could wind up the affairs of the Society, now numbering 1954 members, and have twice as much cash on hand as you had when the reorganization took place and the JOURNAL was started. Is that such poor management? Have the promises of eight years ago been broken or kept?

Respectfully submitted,

PHILIP MILLS JONES, *Secretary*.

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## REPORT OF THE COUNCIL.

To the President and Members of the House of Delegates—

Gentlemen: The Council, which is the governing body of our Society during the period between the annual meetings, herewith presents for your consideration the work which has come before it during the year from April, 1909, to April, 1910.

Seven meetings were called and six were held; at one meeting (the first since July, 1902) there was not a quorum, but the matters then discussed were properly acted upon at the next regular meeting.

As required by a resolution passed in 1905, and introduced at that time by the Secretary, Dr. Jones, the Council has had all the books and accounts of the Society audited by certified accountants and a copy of their report is placed in your hands. We particularly call your attention to this statement, as it shows rather more than the average annual gain. At the beginning of 1909, which is the fiscal year covered by this audit, there was a debit in the form of overdraft of $447.12. On January 1, 1910, all bills of 1909 were paid, there was no overdraft, and there was $333.83 cash on hand, thus showing a gain for the year of $580.95. The difference between this sum and the excess receipts as given in the report of the auditor is due to an error on the part of the bank, a check for $5.00 having been credited twice; this the auditor would not change.

The most important action taken by the Council during the year was that of establishing malpractice defense for the members of the Society, which was done at the meeting of June 24, 1909, such defense to take effect July 1, 1909. This action was taken under the authorization of the House of Delegates at the last annual meeting, and it is now the duty of this present House of Delegates to confirm or reject the plan adopted by the Council. In considering the matter, the Council discussed many plans but finally concluded that the simplest possible machinery would be the most effective. As the probable cost could not be determined, it was decided to work the plan on the assessment basis; that is, allow the medical defense to be in force from July 1, 1909, to April 1, 1910, and then recommend to the House of Delegates an assessment that would cover that cost and allow something for the next year's work. A special committee of the Council was appointed to take charge of this work, and you will learn from the report of that committee what has been done. The Council recommends that a special assessment of fifty cents (50c) per member, due and payable May 1, 1910, be levied, this money to be kept in a special fund to be known as the "Medical Defense Fund," and that a special assessment of fifty cents (50c) per member, due and payable January 1, 1911, for the Medical Defense Fund for that year, be also authorized. This will obviate in future the trouble of collecting dues and assessments twice a year and make all collections payable in January.

As permitted by the House of Delegates, $100.00 notes were issued to take up the $2000.00 note which was outstanding. When sixteen of these notes had been issued, it was found that there was enough money in the general fund to make up the balance, $400.00, and the note was paid. In November, as the remaining $400.00 was needed for a short time, a ninety-day note was drawn and the money borrowed from the bank; this money was paid when it came due, February 28th, so that, at the present time, we have only $1600.00 of indebtedness and not $2000.00, as appears in the auditor's report, which was correct on the 31st of December last. It is probable that, if conditions remain as they are, it will not be necessary to make this short-term loan this year, though it may appear to be wiser to take up some of the long-term notes during the year and borrow, on short term, from the bank, if it becomes necessary.

Register.—Last year a proposition was presented to the Council by Mr. Henry Kaplan to modify his contract with the Society and issue the Register and Directory as a part of a quarterly medical periodical. This the Council referred to the House of Delegates and it was unanimously rejected by that body. Subsequently the former contract with this publisher was renewed for the edition of 1909. The nature of the contract was that the information was to be compiled in the office of the Society, the publisher to secure such advertisements as he could and as did not conflict with the rules of the Publication Committee; the publisher was to supply one copy of the book to each member and to receive the money from advertisers and sales. Greatly to our astonishment, the publisher, unmindful of the action of the House of Delegates in rejecting his proposition to make the Register a part of a quarterly magazine, brought out just such a publication, unauthorized and unwarranted, and represented to those who customarily advertise in the Register and Directory that the quarterly publication was the official publication of the Society. The Council instructed our attorney to notify Mr. Kaplan to fulfill his contract and to stop further use of our Register, and, if he did not do so, to proceed against him. In December Mr. Kaplan was so

notified, but he again disregarded the notice and suit was consequently filed against him on March 15, 1910, for violation of our copyright and for damages. Our attorney assures us that there can be no doubt as to the soundness of our position or the outcome of the suit. Of course, if the House of Delegates wishes to give away its property (in the shape of the Register and Directory) to private parties, and if it does not realize that by so doing the members will, in a short time, have to pay for what they now get free, these suits may be ordered stopped. An injunction against Mr. Kaplan was issued April 11th, and this will undoubtedly be made permanent.

Journal.—At its meeting on March 14, 1910, the Council received a communication from Mr. Henry Kaplan, in which he proposed to have the Society turn over to him the CALIFORNIA STATE JOURNAL OF MEDICINE. As the business dealings which the Council has had with Mr. Kaplan in past years were not such as to impress them favorably (as indicated, in part, by the suits filed against him to recover some of the property of the Society appropriated by him without warrant), this communication was laid upon the table without consideration. It is to be remembered that our JOURNAL began the fight for reform in proprietary medicines in 1902, and that it has consistently maintained its attitude of demanding honesty from the manufacturer. It is the sole and exclusive property of the Society and so it can be kept to such standards as the members support. Were it to pass into other hands, however, it would be only a question of time when the Society would have no journal and its pages might be prostituted to commercialism, as are those of nearly all privately owned medical publications.

During the year there has been a slow but steady growth in the advertising carried by the JOURNAL, in no small part due to the active work of Dr. Bering, who was made chairman of a committee on advertising, and who has refused to accept anything for his energetic and valuable services. If more of our members would co-operate by simply asking every detail man who comes to them if his house advertises in the JOURNAL, and if not, why not, it would be of the greatest help in securing further advertisements.

The Postoffice Department has recently made a new ruling which will necessitate some changes in our organization if we are to continue to receive the privilege of second-class mailing rates for the JOURNAL. Up to November of last year it was considered quite proper for the subscriptions of members to be paid out of the dues they had contributed.

As there is a bill before Congress at the present time which will definitely settle the question at issue between the JOURNAL and the Postoffice Department, this bill specifically giving to journals of scientific societies the privilege of second-class mail rates, the Council recommends that the fixing of the amount of the annual assessment and of the subscription price of the JOURNAL be left to the Council, with the proviso that the combined amount shall not exceed $3.00 per member, exclusive of the assessment for Medical Defense, and also that the Council be authorized to make such changes as may be required by the Postoffice Department, if any shall be so demanded.

Never has the Society been in better condition; never before has it had so many members, and the undertaking of the defense of our members when subjected to suits for malpractice—which are generally merely blackmail—should attract the interest of many who are not now members.

The Council has instructed the chairman to call your attention to a present condition in the practice of medicine in this State which is of grave importance—it is the material question of practice as a means of livelihood.

This State of California, since the discovery of gold, has been a profitable field for medical men, and therefore large numbers of them from other States and from other countries have been attracted to California as a place of residence, till the State has become overstocked and competition has grown so great that conditions, rapidly developing, demand, I think, the serious consideration of this House of Delegates. The strife now prevailing, particularly in the cities and larger towns, is simply suicidal, and if the same tendencies prevail that have so rapidly developed in the last few years, we will drop down from the elevated plane we have occupied in our professional work to become a rabble of starving men, vainly seeking a livelihood from the practice of medicine.

That the situation may be brought out with the fewest words: First, the relative proportion of medical men to population is greater in this State than in any other place in the world. In cities like Los Angeles and San Francisco, a doctor to 250 people; the average for the whole State is one physician to about 450 of population, and in no portion of the State does there seem to be a ratio coming anywhere near what prevails in other States and in other countries. But heretofore the profession has enjoyed fair remuneration for services, thus compensating in a degree for the paucity of material. Recently, however, there has developed in various places an aggravating practice in contract service that eliminates a large percentage of the population from the ordinary honest practitioner. The evil complained of is not confined to one section, but is worse in some places than in others.

Let us for a moment consider the city of San Francisco, always overstocked with medical men. I now think that 40% of the population of that city is supplied medical and surgical service embraced in "dollar-a-month" organizations, charitable organizations, eleemosynary service, or corporation or company contract service. Then comes the Christian Science cult, followed by other various forms of quackery that have always flourished, and at once it becomes apparent that disaster and starvation stare the mass of the profession in the face. This is no fancy picture; it is a plain statement of the conditions prevailing and becoming worse rapidly.

I am informed that in the town of Eureka, with

a population of 12,000, the work of the profession is being striven for by twelve hospital organizations, all on the "dollar-a-month" basis, and that special offers of medical, surgical and hospital service at the cut rate of $10.00 per annum have been made.

In San Francisco we have the following hospital organizations, companies, charities, etc.:

The German General Benevolent Society, the French Hospital Association, the Eureka Benevolent Society, the Grace Darling Hospital Association, the Pacific Hospital Association, the Eagles, the Owls, Longshoremen and Stevedores, Associated Charities, Antitubercular Society, Fruit and Flower Mission, Miss Asche's Clinic, Hahnemann Dispensary, Southern Homeopathic Dispensary, San Francisco Polyclinic, Lane Hospital Dispensary, University of California Dispensary, College of P. & S. Dispensary, Spaulding's Lying-In Hospital, the Red Men, the Woodmen, the Foresters, the Children's Hospital, the Southern Pacific Hospital and Church Mission Dispensaries. There is also the United Railroads and municipal institutions as follows: The City and County Hospital, City Physician, Prison Physician, Almshouse, the Emergency Hospital service, with 400 official cappers, the Fire Department, Police Department and school inspectors and nurses.

The German and French societies alone remove some 13,000 of the population. In the face of Christian Science, psychotherapy and the other numerous forms of quackery, how is the educated, clean young practitioner of medicine going to make a living out of his professional work?

It is to be remembered that some of these various companies and organizations are served by the best talent our profession affords. I see some of them sitting before me now. They may never have considered this course in the light in which it is now presented. Such a wholesale scheme of "doing the other fellow" would not be permitted in any other profession or calling that I have in mind.

There seems to be at the present time, under the influence of prosperity of a goodly number of our citizens, a desire to do charity; and they are doing it with a vim, mostly using the best men in the medical profession as tools in the work. There is no excuse or reason for a citizen to employ a physician in midwifery, surgery or internal medicine in San Francisco, because he can have it for nothing for the asking, and first-class service at that.

I am not bringing this matter up as a personal one, but in the interest of the younger men who have elected to enter this noble profession and to serve their fellow man as an honorable means of livelihood.

After discussion of the above facts, the Council unanimously voted to recommend that each county society take up and discuss this matter of contract practice and to work out methods tending toward its elimination and, if possible, to give notice to its members that in 1911, or as soon after as possible, steps would be taken to make participation in all such contract practice a sufficient cause for loss of membership in the county and State societies.

Certain direct insinuations reflecting upon the integrity of the Secretary and Editor and his honesty of dealing with the Society having reached the attention of the Council, we have requested him to take up these matters in his reports. The reports that he presents to you have been spread before the Council and have been approved unanimously by it.

Respectfully submitted,

C. G. Kenyon,
Chairman.

## EYE, EAR, NOSE AND THROAT SECTION OF THE STATE SOCIETY.

The section of the eye, ear, nose and throat of the last State Society meeting organized a permanent department with the election of a chairman, vice-chairman, executive committee and secretary.

It is an earnest wish that the excellent meetings of the section in the past, will be more than duplicated at Santa Barbara next year, and to that end we hope that the men of the State who should belong to the section will take an active interest in the next meeting. The time allotted to us for our program has been increased, so that ample time for the reading and discussion of papers is assured.

There should be no difficulty in arranging an extremely interesting and instructive program if the men of the State doing that kind of work will take time to prepare papers on their interesting cases, or subjects of research and study.

The officers of the section are: Chairman, W. E. Briggs, Sacramento; vice-chairman, W. A. Martin, San Francisco; vice-chairman, D. W. Trowbridge, Fresno; executive committee—H. Hastings, Los Angeles; H. L. Wagner, San Francisco; K. Pischel, San Francisco; secretary, E. W. Alexander, Shreve Building, San Francisco. Any communication for the section can be sent to the secretary.

## MEETING OF STATE MEDICAL BOARDS.

The National Confederation of State Medical Examining and Licensing Boards will hold its twentieth annual meeting at St. Louis, Missouri, on Monday, June 6, 1910, in the Southern Hotel.

The subject to be taken up at this meeting will be a consideration of practical clinical instruction in medical colleges, a report on medical education in the United States by a representative of the Carnegie foundation, and a report on a proposed materia medica list by a special committee. These topics are all practical and of vital interest to examining boards, medical schools and the profession. The contributors of papers to the symposium on clinical instruction are men of the highest standing in the medical profession, many of them teachers in some of the foremost institutions in this country, and their productions will be worthy of the most careful consideration. The chief object of this symposium is to determine, as far as possible, whether clinical instruction in medical schools can be made sufficiently practical and thorough so as to warrant the medical boards in demanding practical examinations in the principal branches of the medical course.

An earnest and cordial invitation to this meeting is extended to all members of State boards, professors and teachers in medical schools, and all others interested in securing the best results in medical education.

The officers of the Confederation are: President, A. Ravogli, M. D., 5 Garfield place, Cincinnati, Ohio; secretary, Murray Galt Motter, M. D., 1841 Summit place, N. W., Washington, D. C.

# A REPORT OF THE LAST MEETING OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION, WITH COMPARISONS OF CONDITIONS NOW EXISTING IN CALIFORNIA.*

By DR. W. JARVIS BARLOW, A. B., M. D., Los Angeles.

*Medical Education.*

The meeting of the Council on Medical Education of the American Medical Association, held in Chicago February 28th to March 2d, 1910, suggested the following scheme for the ideal course that should constitute the study of modern medicine:

1. Preliminary Education.
   (a) A four-years' course in high school.
   (b) At least one year in pre-medical sciences—physics, chemistry and biology, which may be taken in college of arts or of medicine.
2. Professional Education.
   (a) A four-years' course in a medical school proper; two years in anatomy, physiology, pathology and pharmacology; two years in clinical medicine, surgery, obstetrics, etc.
3. Practical Training.
   (a) One year as interne in a well equipped hospital.

What has been accomplished by these meetings and what should be brought about may be grouped as follows:

1. Improvements accomplished.
   (a) Medical schools decreased from 160 to 140.
   (b) Medical schools merged, or affiliated with universities.
   (c) Improved standards in existing schools.
2. Improvements urged for the future.
   (a) A further reduction of number of medical schools to 60 or 70.
   (b) University control of medical schools.
   (c) A faculty of men paid to teach medicine.
   (d) Supervision of medical instruction by State boards.
   (e) A single licensing board for each State.
   (f) That the public be taught the value of thorough medical training.
   (g) A common standard for all schools of practice.

Being appointed by the Governor as the California Delegate to this meeting of the American Medical Association, I made a report to that Council of our conditions here, from data collected from the deans of the various schools teaching medicine in this State. These statistics will be published in detail for those interested, so that your time may not be taken here for it. For this meeting a comparison has been gathered.

Taking such data as a basis for present conditions and comparing the reports of the deans with the report adopted by the Council, it shows to what extent medical education in California conforms to that in other States, using the outlines previously given:

*1. Preliminary Education.*

(a) "Four-years' course in high schools."
This is required by all schools in the State.
(b) "At least one year in pre-medical sciences."
This is required by three regular schools only.

*2. Professional Education.*

(a) "A four-years' course in the medical school."
Required by all schools in the State except the schools of Osteopathy, which teach three years only.

*3. Practical Training.*

(a) "One year as interne in well equipped hospital."

As this is voluntary with the individual in our schools this part of medical education has been grossly neglected. Many men feel forced to enter practice at once for a livelihood though realizing their lack of fitness. Others see no necessity for beginning their work in this way and choose to enter practice immediately. Others have tempting offers with salaries in mining towns, and only a small proportion of the graduates seek hospital work. Conditions in the Eastern States are quite different, as only a small number of graduates enter practice without this hospital training. The demand for a hospital training, for a year or two after graduation, is growing and is an encouraging sign for medical education; and this will increase as hospitals offer better service and advantages.

*1. Improvements Accomplished.*

(a) "Medical schools reduced in number."

In California there are ten medical schools—6 Regular; 1 Homeopathic; 1 Eclectic; 2 Osteopathic. The report from the State shows that there has been no actual reduction in the number of schools, but there is one less in number of medical schools teaching the first two years of medical work.

(b) "Medical schools merged or affiliated with universities."

Four Regular schools are Departments of Universities.

The report last year shows the Cooper Medical College as the Medical Department of Leland Stanford Jr. University.

The College of Medicine of the University of Southern California has become the Los Angeles Department of the University of California, teaching only the third and fourth, or clinical years.

The College of Physicians and Surgeons of Los Angeles has become part of the University of Southern California.

*Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

(c) "Improved standards in existing schools."

One Regular has 3 years pre-medical work required, and 2 Regulars have 2 years pre-medical work required; all others are on former standards.

The Cooper Medical College of Leland Stanford Jr. University has raised its entrance requirements to three years of college or pre-medical work.

The Los Angeles Medical Department of the University of California has raised its entrance requirements to two years of college or pre-medical work, to conform to the San Francisco Department of the University of California.

*2. Improvements Urged for the Future.*

(a) "Reduction of the number of medical schools to 60 or 70."

One medical school per 1,000,000 inhabitants seems an adequate supply. On such a basis there would be two medical schools in California, and certainly three would be sufficient. Some further consolidation in the State would offer many advantages to the public, as well as to medical education. Last year there were in attendance in the State, Regular students, 341; Homeopathic, 24; Eclectic, 9; Osteopathic, 389. This shows that there were more Osteopaths studying medicine in this State than all the other students of medicine combined.

(b) "University control of medical schools."

Regular schools in California are seeking affiliation with recognized universities, which is in the right direction and brings advantages to both the university and the medical school. The university should elect the faculty, set the standards, direct the instruction, be responsible for the ideals, and give the necessary financial support. This is in accordance with the standard of the European medical schools.

(c) "A faculty of men paid to teach medicine."

Trained teachers, instead of those to whom teaching is incidental, should be compulsory, for proper teaching is hardly compatible with an active private practice, which gives no time for research and advancement. No medical school in the State gives all instruction by salaried teachers. Instruction in the first and second years, by salaried teachers only, is furnished by only one Regular school. Instruction in the first and second years by salaried teachers in part is furnished by 5 Regular, 1 Homeopathic, and 2 Osteopathic. Instruction in the third and fourth years by salaried teachers in part is furnished by 4 Regular and 1 Homeopathic school.

(d) "Supervision of medical instruction by State boards."

Present board can influence education by making certain conditions and rules for all who come up for examination for a license, but has no jurisdiction over medical education to supervise the instruction. In New York all licenses are issued by the University of the State of New York and controlled by the regents. It would be well for California to have a board made up of men from the several universities of the State, and chosen on account of some special fitness, which would exercise a different influence on medical instruction.

(e) "A single licensing board for each State."

Recognition of disease and the principles of medical reasoning should be the same for all entrusted with the sick. It is just and right to expect a similar accuracy in diagnosis from all schools. The State board should protect the public and prevent incompetent men from imposing upon the public, which can only be done by a single licensing board. California has a single board. Examinations for license should be at least in part practical, rather than simply a test of ability to remember text-book statements or a reviewer's quiz, because a practical examination is a better test of the applicant's ability to recognize disease and the underlying conditions thereto.

Under the present system occasionally competent men fail, and incompetent men with fair memories pass and are licensed to practice, so that passing or failing on State board examinations is not always a criterion of the degree of training received.

Last year California showed from Regular schools 66 diplomas granted, and 77 Regular physicians received licenses; Homeopathic schools granted 7 diplomas and the State licensed 11; Eclectic received 4 diplomas and one was licensed; the Osteopathic schools granted 78 diplomas, and the State board licensed 29.

(f) "That the public be taught the value of thorough medical training."

This may be accomplished by placing well-trained men at the services of the public, in health-board positions, in free hospitals and dispensaries, etc. Only by experience with thoroughly trained men can the public realize that such training is for the best interests of the community.

Three Regular schools control hospitals for teaching purposes, and the 2 Osteopathic schools claim the same advantage. Six Regular and 1 Homeopathic school have access to hospitals for teaching purposes, but without control. Six Regular, 1 Homeopathic and 1 Osteopathic control dispensaries for teaching purposes.

(g) "Common standard for all schools of practice."

This applies to the requirements for admission to professional schools, as well as to requirements for examination before a State board. Differences exist in the medical schools. One Regular school requires 3 years of college work for entrance; 2 Regulars require 2 years of college work; and all other schools teaching medicine in this State require a high school diploma or its equivalent. Greater differences exist in the courses offered by the schools.

Appended to this paper are the statistics gathered from the several colleges of the State, and each was personally visited. All of the colleges answered the questions except the one Eclectic, which is necessarily omitted from the statistics. The colleges have been rated according to the existing conditions, which rating is, of course, an arbitrary one, but based on the facts given.

## STATISTICS FROM MEDICAL SCHOOLS IN THE STATE OF CALIFORNIA.

Compiled by W. JARVIS BARLOW, A. B., M. D., Los Angeles.

Regular ..... 6
Homeopathic ..... 1
Eclectic (no reply) ..... 1
Osteopathic ..... 2

Teaching 4 years in all schools except the Osteopathic, which teach 3 years.

Entrance requirements:
- 3 years college work, 1 R.
- 2 years college work, 2 R.
- High school diploma or equivalent, 3 R, 1 H; 2 O; 1 E.

Number of students attending, 1908-1909:
- Regulars ..... 341
- Homeopathic ..... 24
- Eclectic ..... 9
- Osteopathic ..... 389

Diplomas granted, 1908-1909
- Regulars ..... 66
- Homeopathic ..... 7
- Eclectics ..... 4
- Osteopaths ..... 78

Licentiates of California State Board, 1908-1909.
- Regulars ..... 77
- Homeopathic ..... 11
- Eclectics ..... 1
- Osteopathic ..... 29

Integral part of a university:
- Regulars ..... 4

Number of weeks taught:
- 32 weeks, 2 Regulars.
- 34 weeks, 1 Regular; 1 Homeopathic
- 36 weeks, 3 Regulars
- 38 weeks, 1 Osteopathic.
- 40 weeks, 1 Osteopathic.

Instruction in 1st and 2nd years by salaried teachers only: 1 Regular.

Instructions in 1st and 2nd years by salaried teachers, in part: 5 Regulars; 1 Homeopathic; 2 Osteopathic

Instruction in 3rd and 4th years by salaried teachers, in part: 4 Regulars; 1 Homeopathic.

Controlling hospitals for teaching purposes: 3 Regulars; 2 Osteopathies.

Having access to other hospitals for teaching purposes: 6 Regulars; 1 Homeopathic.

Controlling dispensaries for teaching purposes: 6 Regulars; 1 Homeopathic; 1 Osteopathic.

Comparison of statistics from nine of the ten legalized colleges teaching medicine in California, based on signed replies sent to Dr. Barlow by the deans of said schools:

Regulars ..... 6 Schools
Homeopathic ..... 1 School
Eclectic (no reply) ..... 1 School
Osteopathic ..... 2 Schools

### Rank I.

Cooper Medical College (Leland Standord University).

Class 1 as regards:
- Hospital facilities.
- Value of real estate.
- Number of salaried teachers in 3rd and 4th years.
- Amount expended in 3rd and 4th years.
- Entrance requirements.
- Connection with a university.

Class 2 as regards:
- Amount of equipment.
- Endowment.
- Expenses of last year.
- Number of salaried teachers in 1st and 2nd years.
- Amount expended in teaching 1st and 2nd years.
- Number of weeks taught.

### Rank I.

San Francisco Medical Department of the University of California.

Class 1 as regards
- Value of equipment.
- Endowment
- Expenses last year
- Number of salaried teachers in 1st and 2nd years.
- Expense of teaching in 1st and 2nd years.
- Number of weeks taught.
- Connection with a university

Class 2 as regards
- Number of buildings
- Hospital facilities
- Value of real estate
- Amount expended in teaching 3rd and 4th years
- Entrance requirements.

Class 3 as regards:
- Number of salaried teachers in 3rd and 4th years.

### Rank II.

Los Angeles Medical Department of the University of California

Class 1 as regards:
- Number of college buildings
- Connection with a university.

Class 2 as regards:
- Hospital facilities
- Entrance requirements
- Value of real estate

Class 3 as regards:
- Value of equipment.
- Expenses of last year
- Number of salaried teachers in 1st and 2nd years.
- Expenses of teaching 1st and 2nd years.
- Number of weeks taught.

Below class 3 as regards:
- Amount expended in teaching of 3rd and 4th years.
- Having no salaried teachers in 3rd and 4th years.
- Want of endowment.

### Rank III.

College of Physicians and Surgeons, University of Southern California.

Class 1 as regards:
- Number of weeks taught.
- Connection with a university.

Class 3 as regards:
- Hospital facilities.
- Entrance requirements.
- Amount expended in teaching 1st and 2nd years.

Below Class 3 as regards:
- Value of equipment.
- Number of salaried teachers in 1st and 2nd years.
- Amount expended in teaching 3rd and 4th years.
- College buildings or real estate owned.
- Endowment.

### Rank IV.

College of Physicians and Surgeons of San Francisco.

Class 2 as regards:
- Number of salaried teachers in 3rd and 4th years.

Class 3 as regards:
- Amount expended for teaching 3rd and 4th years.
- Entrance requirements.
- Number of weeks taught.
- Buildings owned.

Below class 3 as regards:
- Hospital facilities.
- Amount of real estate owned.
- Amount of equipment.
- Expenses of last year.
- Number of salaried teachers in 1st and 2nd years.
- Amount expended for teaching 1st and 2nd years.
- Want of university connection.
- Want of endowment.

| | Number of College Buildings. | Hospitals where College May Teach. | Number of Hospital Beds Available. | Dispensaries—Average Number Cases Treated Yearly. | Connected with University or not. | Value of Real Estate. | Value of Equipment. | Endowment. | Number of Professors. |
|---|---|---|---|---|---|---|---|---|---|
| Cooper Medical College..... | 1 | 2 | | 6300 new patients 26000 old visits | Yes Stanford Univ. | $600,000 | $ 93,000 | Hospital $20,000 | 21 |
| Berkeley Medical Dept. U. C... | 3 | | | | Yes Univ. Calif. | U. C. Grounds | $107,050 | | 16 |
| S. F. Medical Dept. U. C..... | 2 | 3 | 75<br>150<br>450 | 4500 cases yearly | Yes Univ. Calif. | $200,000 | $ 50,000 | $113,455.33 Hospital | 16 |
| L. A. Medical Dept. U. C..... | 4 | 3 | 200<br>42<br>28 | 18000 cases yearly | Yes Univ. Calif. | $125,000 | $ 20,000 | None | 16 |
| L. A. College of Phys. & Surg... | 1 | 1 | 200 | | Yes Univ. So. Cal. | None | $ 15,000 | None | 42 in Faculty |
| Oakland College Med. & Surg... | 1 | 2 | 300<br>200<br>No beds assigned to College. | 3000 cases yearly | No | $ 20,000 | No answer | None | 34 in Faculty |
| College of Phys. & Surg., S. F... | 1 | 2 | 150 | 20000 cases yearly | No | $ 50,000 | $ 25,000 | None | 49 |
| Hahnemann Med. College of Pac. ..... | 1 | 2 | 56<br>40 | 900 cases yearly | No | $ 20,000 | $ 6,000 | $1,250 | 24 |
| L. A. College of Osteopathy.... | 3 | 1 | 15 | 5400 cases yearly | No | Rented on lease | $ 20,000 | None | 18 |
| Pacific College of Osteopathy... | 1 | 1 | 15 | No answer | No | $ 20,000 | $ 4,000 | $10,000 | 20 |
| Cal. Electric Med. College..... | Did not respond to questions. | | | | | | | | |

### Rank V.

Oakland College of Medicine and Surgery.

Class 1 as regards:
- Number of weeks taught.

Class 3 as regards:
- Number of salaried teachers in 3rd and 4th years.
- Entrance requirements.

Below class 3 as regards:
- Amount expended for teaching 3rd and 4th years.
- Value of real estate owned.
- Number of salaried teachers in 1st and 2nd years.
- Amount expended in teaching 1st and 2nd years.
- Want of university connection.
- Buildings owned.
- Want of endowment.
- Expenses of last year.

### Rank VI.

Hahnemann Medical College of the Pacific.

Class 2 as regards:
- Number of weeks taught.

Class 3 as regards:
- Hospital facilities.
- Entrance requirements.

Below class 3 as regards:
- Number of salaried teachers.
- Amount expended.
- Equipment.
- Want of university connection.

### Rank VII.

Los Angeles College of Osteopathy.

Class 1 as regards:
- Number of weeks taught (38).
- Expenses and income.

Class 2 as regards:
- Number of salaried teachers.

Class 3 as regards:
- Value of equipment.

Below class 3 as regards:
- Hospital facilities.
- Entrance requirements.
- Value of real estate.
- Want of university connection.
- Want of endowment.

### Rank VIII.

Pacific College of Osteopathy.

Class 1 as regards:
- Number of weeks taught (40).

Class 2 as regards:
- Expenditure for teaching.

| Number of Students. | Diplomas Issued 1908-09. | Income Last Year. | Expenses Last Year. | No. Salaried Teachers 1st and 2nd Years. | No. Salaried Teachers 3rd and 4th Years. | Expended Teaching 1st and 2nd Years. | Expended Teaching 3rd and 4th Years. | Entrance Requirements. Present. | Entrance Requirements. Future. | Fees. | Number of Weeks Taught | Hours Taught Each Year. 1st and 2nd Years. | Hours Taught Each Year. 3rd and 4th Years. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ..<br>24<br>41<br>17 } 82 | 21 | $21,500.00 | $27,422.00 | 6 | 4 | $ 7,089 | $4,800 | High school diploma | 1909—3 yrs science in Univ. | $165<br>160<br>160<br>185 | 34 | 2nd year only<br>Didactic 340<br>Laboratory 884 | Didactic 1122<br>Clinical 1128 |
| | | $38,953.57 | $35,478.05 | 15 | | $21,580 | | Two years academic work | Same | $150<br>150<br>150<br>150 | 36 | Didactic 605<br>Laboratory 2238 | |
| 20<br>16<br>9<br>2 } 47 | 7 | $7,247.15 | $46,359.84 | | 2 | | $3,000 | High school and two years college work | Same | $150<br>150<br>150<br>150 | 36 | | Didactic 502<br>Laboratory 1250 |
| 13<br>22<br>14<br>10 } 59 | 14 | $14,000.00 | $16,000.00 | 4 | 0 | $ 4,372 | | High school diploma | High school and 2 yrs college work, 1910 | $150<br>150<br>150<br>150 | 32 | Didactic 320<br>Laboratory 1120<br>2nd year | Didactic 832<br>Clinical 1632 |
| 28<br>19<br>6<br>14 } 67 | 5 | $ 4,254.00 | No answer | 4 | 0 | Proposed $ 4,750 | | Those of Assn. Amer. Med Colleges | Same | $150<br>150<br>150<br>150 | 36 | Didactic 1188<br>Laboratory 2052 | Didactic 2220<br>Clinical 1548 |
| 10<br>7<br>1<br>3 } 21 | 4 | No answer | No answer | 1 | 2 | $ 600 | $1,800 | Those of Assn. Amer. Med Colleges | Same | $190<br>200<br>150<br>175 | 36 | Didactic Laboratory 2184 | Didactic 1162<br>Clinical 1432 |
| 10<br>18<br>20<br>17 } 65 | 11 | $ 6,500.00 | $10,000.00 | 6 | 3 | $ 4,640 | $1,840 | High school diploma | University Entrance | $150<br>150<br>150<br>150 | 32 | Didactic 1800<br>Laboratory 1100 | Didactic 1300<br>Clinical |
| 8<br>7<br>2<br>7 } 24 | 7 | $ 3,200.00 | $ 3,300.00 | 3 | 1 | $ 1,400 | $ 600 | High school diploma | Same | $150<br>100<br>100<br>100 | 34 | Didactic 1633<br>Laboratory 1362 | Didactic 2788<br>Clinical 672 |
| 76<br>102<br>122 } 300 | 55 | $50,000.00 | $50,000.00 | 14 | for all years | for all years $14,535 | | High school diploma | Same | $150<br>150<br>150 | 38 | Didactic 1214<br>Lab. or Clinical 1293 | Didactic 1007<br>Laboratory or Clinical 860 |
| 28<br>32<br>25<br>4 } 89 | 23 | $13,000.00 | $13,000.00 | 8 | 0 | $13,000 | | High school diploma | Same | $150<br>150<br>150<br>150 | 40 | Didactic 1800<br>Laboratory 2000 | Didactic 2000<br>Clinical 1800 |

Class 3 as regards:
Expenses for last year, and endowment.
Below class 3 as regards:
Hospital facilities.
Entrance requirements.
Value of real estate.
Equipment.
Want of university connection.

Note.—Largest income, Los Angeles College of Osteopathy, $50,000.

Percentage of students who passed or failed in California State Board examinations in 1908 and 1909:

**Regular Colleges.**

| | Passed. | Failed. |
|---|---|---|
| Oakland College of Medicine and Surgery (4 students) | 100 % | |
| Cooper Medical College (Leland Stanford Univ.) | 95.7% | 4.3% |
| S. F. Medical Department, Univ. of California | 88 % | 12 % |
| L. A. Medical Department, Univ. of California | 86 % | 14 % |
| College of Physicians and Surgeons, L. A. | 76.9% | 23.1% |
| College of Physicians and Surgeons, S. F. | 71.4% | 28.6% |

**Homeopathic Colleges.**

| | | |
|---|---|---|
| Hahnemann Medical College of the Pacific | 71.4% | 28.6% |

**Eclectic Colleges.**

| | |
|---|---|
| California Eclectic College (1 student) | 100% |

**Osteopathic Colleges.**

| | | |
|---|---|---|
| Pacific College of Osteopathy | 55.5% | 45.5% |
| Los Angeles College of Osteopathy | 68.7% | 31.3% |

**Rating of Colleges.**

According to the statistics given, an arbitrary rating has been made, showing the order in which the colleges stand in relation to each other. It is to be noted that the first two mentioned colleges possess about the same standing:

| | |
|---|---|
| Cooper Medical College | 1 |
| S. F. Medical Department, U. C. | 1 |
| L. A. Medical Department, U. C. | 2 |
| L. A. College of P. & S. | 3 |
| S. F. College of P. & S. | 4 |
| Oakland College of Medicine | 5 |
| Hahnemann College of the Pacific | 6 |
| L. A. College of Osteopathy | 7 |
| Pacific College of Osteopathy | 8 |

## REPORT OF THE COMMITTEE ON MEDICAL DEFENSE.

To the President and Members of the House of Delegates—

Gentlemen: The plan for medical defense adopted by the Council, and now to be accepted or rejected by this House of Delegates, is as follows:

1st. Every member in good standing (dues paid) is to be defended, free of all cost to himself, in case of any suit for malpractice against him.

2d. Any member threatened with a suit is to communicate with the Secretary immediately, so that our attorneys may take the matter up and possibly avoid the trouble and expense of opposing a suit by simply letting the would-be plaintiff know that any such suit will be fought by the Society to the limit of legal possibilities.

3d. In places so distant from San Francisco that it would not be practicable for our attorney to go there and personally conduct the defense, a local attorney, acceptable to the defendant and to our attorney, will be appointed and he will act in consultation with the attorney of the Society.

4th. Any member against whom suit is filed must transmit the original papers served upon him, or a true copy thereof, to the Secretary of the State Society within forty-eight hours. He must also send to the Secretary a full and complete statement of the case, name, age, illness or injury of patient, and in general a full account of the ailment and his treatment thereof.

5th. The alleged malpractice must have occurred on or after July 1, 1909, and the defendant must have been at that time and continuously thereafter a member in good standing (dues paid) of his county medical society. No suit will be defended in which the defendant was not a member in good standing at the time at which the alleged malpractice occurred.

As we were unable to form any idea of the probable cost attached to this work, it was decided that our attorney be requested to refrain from asking for his retainer or other fees until after this meeting of the Society, by which time it would be evident what sum would probably support the work. To date there have been two threatened suits and one actual suit (later withdrawn) filed against members. The cost to date is three hundred dollars ($300.00).

The Council has therefore recommended that the assessment for Malpractice Defense be fixed at fifty cents, to be made payable immediately, to cover the work from last July to date. This will leave a balance on hand which will probably be sufficient to carry on the work for the rest of the year, and in January, 1911, a second assessment of fifty cents should be paid to cover the work for the fiscal year 1911. In case any expensive suits should occur in the future it will be possible to increase the amount of the assessment when it becomes necessary, but experience in other States seems to show that members can be defended successfully at an annual cost of not much over fifty cents per member.

The Committee most earnestly endorses the recommendation of the Council that the plan for Medical Defense as outlined herein be endorsed by this House of Delegates and that it be ordered continued indefinitely.

Your Committee believes, however, that this House of Delegates should consider two alternative plans for the financial conduct of medical defense.

1st. Fix the assessment for this purpose at one dollar per year for a few years, thus slowly accumulating a defense fund of some thousands of dollars, and then make the annual assessments thereafter such small amounts as will cover the work without allowing the reserve fund to be lowered.

2d. Fix the assessment for the first one or two years at five dollars per year, thus accumulating a reserve defense fund immediately and then making such annual assessment as would pay for the year's work and keep the defense fund intact.

The House might also consider the plan of accumulating, as rapidly as may be, a fund of say $10,000.00, so that the work could be conducted largely upon the income from this fund, while at the same time we would be in a position to not only fight the suits, but also, if a final judgment should be secured against a member, pay the amount of damages allowed. This is one of the many features and details which the Council considered at considerable length but, for various reasons, did not include in the plan finally adopted, the weight of opinion being that the amount of the assessment should be kept low until the House of Delegates had had an opportunity of considering the question and finally passing upon it.

Respectfully submitted,

ALFRED B. GROSSE,
Chairman.

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## REPORT OF THE EDITOR.

To the President and Members of the House of Delegates:

Gentlemen—The Chairman of the Council has reported to you the facts regarding the financial and business conditions of the publications of the Society; the Secretary has elaborated upon the same elements in connection with the JOURNAL and all of his books, accounts, reports, etc., have been submitted to you. The Editor will not touch upon this territory at all, except to state that there seem to be two entirely different views of the JOURNAL in regard to its value or worthlessness. After eight years of unremitting toil on the part of the Editor, the JOURNAL seems to have reached a position where it looks good enough, to a layman and a would-be publisher, to swallow whole and be by him slowly digested and absorbed—to his own profit.

On the other hand, to a member of our Society, a colleague and distinguished confrere of San Francisco, the JOURNAL is worse than none at all because it does not come up to the high grade of scientific excellence represented in the *Journal of the American Medical Association,* and therefore it should either be made at once a most distinctly and distinguishedly scientific publication—or it should be abolished. This is indeed a sadly pessimistic state

of mind and seems to agree not at all with the view of the layman who thinks the JOURNAL good enough to appropriate for his own.

In several previous reports the Editor has called attention to the fact that the JOURNAL is just exactly what you gentlemen, and the other members of the Society, make it. If your papers are poor in quality, by just that much does the tone of the JOURNAL fall; if they are good papers, showing good, thorough and careful work, by that much has the scientific tone and quality of the JOURNAL been improved. No one man can write scientific editorials or reviews of medical progress on all medical subjects. But there are a number of members of this Society who are quite able to write such articles, each on his own subject, from time to time, and their inclusion in the JOURNAL would be a distinct advantage. Within the last few months, largely through the most kindly assistance of Dr. Lartigau, who took charge of the JOURNAL during my illness and enforced absence from the office, a number of such contributors have been secured. But there should be more of them; there should be more of our members who are willing to give of their time and their ability for the good of the Society and the improvement of its JOURNAL.

But while admitting as freely as he has done for the last few years that there is room for improvement in the direction of more up-to-date scientific matter in the shape of reviews and editorials in the JOURNAL, the Editor most emphatically opposes the idea expressed by the captious critic from San Francisco. The JOURNAL is the property of every member of the Society. Every member, within reasonable limitations, has a right to believe that his contributions to medical literature should find their way to publicity in the pages of his JOURNAL. The Publication Committee, in 1903, took this position and decided that unless a paper submitted by a member was impossibly bad, or unless there was some other good reason to forbid it, the paper should appear in the JOURNAL if there was room for it; and that a paper read before a county medical society and sent to the JOURNAL by that society with a request for publication, must be published or the matter referred to the Council. The Editor is still in agreement with that view of the Publication Committee and he has seen, during these seven years, a number of instances in which non-productive members have become writers of constantly improving articles, solely, as he believes, through the encouragement given them by the initial publication.

Furthermore, the Editor is convinced that a large majority of our members and readers are physicians practicing busily among sick people who want to be relieved and as soon as possible, rather than pure scientific investigators or abstruse diagnosticians. It is quite as necessary to get hints upon how best to treat one's patients as it is to learn the very latest scientific advance of a purely speculative character that may have occurred in some foreign land. The Editor believes that the JOURNAL is for the many and not for the few in either extreme, and he has steadfastly adhered to that policy from the beginning. If the Society wishes that policy changed, it must say so in no uncertain tones. In this connection reference to the remarks of the Secretary in 1903 and 1904, Dr. George H. Evans, in his annual reports would seem to be not untimely. He called attention to the great advances made in organization and stated that the part played by the JOURNAL in that work could not be overestimated. I believe that this was true simply because it brought men together; it placed San Diego and Eureka side by side.

I believe that, were the STATE JOURNAL to be made a duplicate in excellence and editorial policy, of the *Journal of the A. M. A.*, the value of the STATE JOURNAL would then and there cease, because it would no longer have the intimate personal interest that it now has to a large number of our members. There is a happy medium and that is what we should continue to strive for; not to make it either intensely scientific or, like the village weekly, purely gossip.

Some papers, reports of meetings, etc., are not published. That is generally because they are so poorly written or put together that they are useless, or because views expressed by authors are contrary to known facts. In many instances the "paper" sent in is merely a collection of notes of cases about which the writer has talked at some meeting, and consequently is not in condition for publication. The Editor has fought the Devil on the one side and has tried to keep from falling into the deep sea on the other, knowing full well that one can never please everybody and that sometimes writers whose articles do not appear seem to resent the fact as though it were a personal insult offered them by the Editor. But nevertheless he has tried to keep close to the policy originally outlined by the Publication Committee, though how successfully he has done so it is hard to say; the task is by no means a simple and an easy one.

Respectfully submitted,

PHILIP MILLS JONES, Editor.

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## MINUTES OF THE HOUSE OF DELEGATES AT THE FORTIETH ANNUAL SESSION OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA, SACRAMENTO, APRIL 19 AND 20, 1910.

*First session,* April 19th. The House was called to order by the President, Dr. Parkinson, at 8:30 P. M. The roll call showed 56 delegates present, and the Chair announced a quorum present and the House ready for business.

*Reference Committee on New Business.* The President stated that it had always been customary to appoint such a committee by resolution, and therefore, if there was no objection, he would not wait for the motion but would proceed to appoint the committee. There being no objection, the following were appointed: H. Bert. Ellis, Stanley Stillman and W. J. G. Dawson.

Dr. Wm. Simpson was called to the Chair and the President thereupon read his address to the House of Delegates, which was referred to the Reference Committee.

The President then resumed the Chair. The Secretary read his report, which was referred to the Reference Committee.

The Chairman of the Council, C. G. Kenyon, then presented the report of the Council; it was referred to the same committee.

The Medical Defense Committee of the Council then presented its report through the Chairman of the Committee, A. B. Grosse; it was referred to the same coommittee.

The Editor presented his report and it was referred to the same committee.

*New Business.* The Los Angeles delegation presented an amendment to the by-laws, Article VI, Section 5, as follows:

Amend Article VI, Section 5, by adding at the end of the section the following: "Each component County Medical Society shall elect from its members a corresponding editor to the editorial staff of the California State Journal of Medicine. The duties of such corresponding editors shall be to contribute to the Journal original articles, editorials and news items of scientific or professional value or interest to the Society or to its members. All matter so contributed shall be subject to the usual supervision of the Publication Committee as provided for in these By-Laws."

The following amendment to Article VI, Section 2, was introduced by H. Bert. Ellis:

"The Committee on Scientific Work shall consist of four members, of which the Secretary shall be, ex officio, one, and the other three shall be elected, one each year, to serve for three years; provided, that this year three shall be elected and these three shall determine by lot their respective periods of office, one, two and three years." The balance of the section, beginning with the words "shall determine," to remain as at present.

These two amendments, under the By-Laws, had to lie upon the table until the next session. There being no objection, the Reference Committee was requested to consider them and report at the Wednesday night session.

The following resolution was introduced by A. S. Lobingier, and, there being no objection, was referred to the Reference Committee:

*Whereas,* The laws governing expert medical testimony in the commonwealth of California are deemed unsatisfactory by both the bar and the medical profession of this State, and

*Whereas,* A committee on reform in the regulations governing the appointment of the medical expert has been appointed by the Council of the Los Angeles County Medical Association to confer with the committee on new legislation of the Los Angeles Bar Association, looking to effecting such reform in the law governing expert testimony; be it

*Resolved,* By the House of Delegates of the Medical Society of the State of California, that it hereby gives its cordial endorsement to the several committees which have been officially delegated to this reform by the several Bar and Medical Associations of this state and pledges its official support to the speedy accomplishment of this reform by enactment by the California Legislature.

The following resolution was introduced by P. K. Brown and there being no objection was referred to the reference committee:

*Whereas,* There exists among the ground squirrels in several counties in this state the infection of bubonic plague; and

*Whereas,* The presence of this disease is a menace to the health not only of those who live in the squirrel-infested regions, but also a menace to the health of our cities on account of the danger of the transmission of plague from the ground squirrels to the rats and thence to persons; and

*Whereas,* Measures are being taken by the U. S. Public Health and Marine Hospital Service in conjunction with the State Board of Health of California to eradicate this infection among the ground squirrels; be it

*Resolved,* That the Medical Society of the State of California views with concern the presence of this disease among the rodents and gives its full approval of the measures being taken to exterminate the ground squirrels, and urges that this work be carried forward as rapidly as possible in order that the infection may be banished from the state in the shortest possible time; and be it further

*Resolved,* That a copy of these resolutions be forwarded to the Secretary of the Treasury, to the Surgeon-General of the U. S. Public Health and Marine Hospital Service, to the Secretary of the California State Board of Health, and to the Senators and Members of Congress from the State of California.

R. L. Porter introduced a resolution expressing the thanks of the San Francisco delegation for the services of the Secretary and Editor. Seconded by R. Russ and carried.

There being no further new business, the minutes were read and approved. The House then adjourned to meet at 8:30 p. m., on April 20th.

SECOND SESSION, APRIL 20, 1910, 8:30 P. M.

Roll call showed 68 Delegates and 8 Councillors present.

The President announced the first order of business, under the By-Laws, to be the choosing of the place for the next session. Letters were presented from the Hotel Del Monte and the Hotel Potter, inviting the Society to meet in their respective hotels in 1911.

*Place of Meeting.* T. A. Stoddard nominated Santa Barbara as the place of meeting and W. J. G. Dawson nominated Santa Rosa. E. W. Twitchell and S. E. Simmons were appointed tellers, and a ballot resulted in the following vote: Santa Barbara 59, Santa Rosa 12, one blank. The President announced that Santa Barbara had been chosen as the place for the next annual meeting.

Howard Morrow rose and stated that he, as

chairman of the San Francisco delegation, wished to speak upon a question of personal privilege. He stated that a letter had been generally circulated among the members of the House of Delegates, which letter apparently expressed the views of the San Francisco delegation and involved the making of promises relating to presidential politics for a year in advance. He wished to repudiate the letter and the import of its contents as coming officially from the delegation or being inspired by it or by anything more than the views of a single individual.

Langley Porter rose and requested to be heard on a question of personal privilege. He stated that he was the President of the San Francisco County Medical Society, and that the letter already referred to by Dr. Morrow apparently indicated that the statements contained therein were those of the Board of Directors of the San Francisco County Medical Society; this he wished to repudiate absolutely and to state that the opinions and undertakings contained in the letter were those of a single individual and did not represent any official action of the Directors.

*President.* Nominations were called for the office of President for the ensuing year. Jno. C. King, of Banning, was nominated by A. S. Lobingier, of Los Angeles. T. W. Huntington, of San Francisco, was nominated by E. W. Twitchell, of Sacramento. A. W. Hoisholt and H. G. Brainard were appointed tellers. The ballot disclosed 41 for King, 34 for Huntington and one blank. The President announced the ballot and Howard Morrow then moved that the election of Dr. King be made unanimous. The motion was seconded, put and carried, and Dr. Jno. C. King unanimously elected.

*First Vice-President.* Dudley Tait nominated George H. Evans of San Francisco; the President ruled the nomination out of order. R. L. Porter nominated A. B. Grosse of San Francisco. There being no other nominations, the Secretary was instructed to cast the ballot of the House for A. B. Grosse, which was done and the election announced.

*Second Vice-President.* R. L. Porter nominated J. Henry Barbat of San Francisco. There being no further nominations, the Secretary was instructed to cast the ballot of the House for J. Henry Barbat, which was done and the election announced.

*Secretary.* W. LeM. Wills nominated Philip M. Jones of San Francisco, and there being no other nominations, on motion the President was instructed to cast the ballot of the House for Philip M. Jones, which was done and the ballot announced.

*Council; 2nd District.* T. A. Stoddard nominated George H. Kress, of Los Angeles, to succeed himself. There being no other nominations, the Secretary was instructed to cast the ballot of the House for George H. Kress, which was done and the election announced.

*Council; 6th District.* R. F. Rooney nominated C. G. Kenyon, of San Francisco, to succeed himself, and there being no other nominations, the Secretary was instructed to cast the ballot of the House for C. G. Kenyon, which was done and the election announced.

*Council; 8th District.* H. Bert. Ellis nominated James H. Parkinson, of Sacramento, and there being no other nominations, the Secretary was instructed to cast the ballot of the House for James H. Parkinson, which was done and the election announced.

*Council; At Large.* C. D. Lockwood nominated F. M. Pottenger, of Los Angeles, to succeed himself, and there being no other nominations, the Secretary was instructed to cast the ballot of the House for F. M. Pottenger, which was done and the election announced.

*Committee on Scientific Work.* The following were nominated and there being no other nominations they were declared elected in the regular manner: A. S. Lobingier, J. L. Asay, C. A. Dukes and Wm. Ophuls.

*Committee on Public Policy and Legislation.* The following were nominated and there being no other nominations they were declared elected in the regular manner: O. D. Hamlin, W. LeM. Wills and J. W. James.

*Committee on Arrangements.* The following were nominated and there being no other nominations were declared elected in the regular manner: T. A. Stoddard, Rexwald Brown and W. H. Flint.

*Committee on Public Health.* The following were nominated and there being no other nominations were declared elected in the regular manner: F. C. E. Mattison, S. Black, W. F. Snow, G. L. Eaton and G. H. Kress.

*Delegate to the A. M. A.* J. L. Milton, of Oakland, was elected for two years, H. C. Moffitt alternate.

*Reference Committee Report.* The Committee reported through its chairman, H. Bert. Ellis, who first read the report in full and then section by section. The President announced that after the reading of each section all matters connected with that topic would be open for discussion and that if there was no objection to any section, he would declare it the unanimous vote of the House that it be adopted.

1. We commend the action of the President in visiting the different sections of the state to stimulate greater activity in the various County Societies. (Carried.)

2. We recommend, in view of past experience, that no effort be made to amend the present medical law, and we further recommend that great care be exercised in the selection and election of the Legislative Committee. (Carried.)

3. We commend and endorse the action of the Council in establishing Medical Defense in alleged malpractice suits, and recommend that an assessment of one dollar ($1.00) per year for three years be levied upon each member and that the first assessment be paid before July 1st, 1910, in order to secure protection. (Carried.)

4. We heartily endorse the action of the Council in the matter of the Kaplan-Register-Journal matter. (Carried.)

5. In regard to that portion of the Council's report referring to contract practice, dollar-a-month

organizations, etc., we recommend that a special committee of five be appointed by the President to make a careful investigation of the matter and make a detailed report on the same at the next annual meeting of the Society, with recommendations as to action; this committee to work with and through the different County Societies. (Carried.)

6. We recommend the adoption of the suggestion of the Council that the annual assessment and subscription price of the JOURNAL be left to the Council with the proviso that the amount shall not be in excess of three dollars ($3.00) per member, exclusive of the assessment for Medical Defense; and also that the Council be authorized to make such changes as may be required by the Postoffice. (Carried.)

7. We recommend that the reports of the Secretary and Editor be adopted and that we express our appreciation of his efforts to bring the Society and the JOURNAL to their present financial condition and efficiency. (Carried.)

8. We recommend the adoption of the resolutions on expert testimony. (Carried.)

9. We recommend the adoption of the resolution on Bubonic Plague conditions. (Carried.)

10. We recommend the adoption of the amendment of Article VI, Section 5, changing "shall" to "may." (Carried.)

11. We recommend the adoption of the amendment to Article VI, Section 2. (Carried.)

12. We recommend the endorsement of the A. M. A. resolution in reference to the National Food and Drugs Act. (Carried.)

13. We endorse the Owen's bill for the establishment of a Department of Public Health and recommend that our Senators be so informed by the Secretary. (Carried.)

(Signed) H. BERT. ELLIS,
STANLEY STILLMAN,
W. J. G. DAWSON.

Each of the foregoing sections, with the attached recommendations, was adopted as presented, and then the report and recommendations were unanimously adopted as a whole.

The following resolution was presented by A. W. Hoisholt and on motion adopted:

*Resolved,* That the Medical Society of the State of California authorize its committee on legislation to consult with the legislative committee of the Bar Association of the State of California and the Juvenile Court Association, requesting them to co-operate in the drawing of a bill or bills to be presented to the next Legislature authorizing Superior Judges to commit drug habitues and inebriates in a similar manner to the method used in committing, confining and treating the insane.

And we further recommend that the state provide a suitable hospital or hospitals for the expert care and treatment of these patients so that they may be given the best chance for cure, thus preventing the crimes and the degeneracy in their offspring which result from the present inefficient handling of such cases.

The following was presented by T. C. Edwards, and on motion adopted:

*Whereas,* There are many of the citizens of our state who innocently and ignorantly become habituated to the use of alcohol; therefore be it

Resolved, By the Medical Society of the State of California, that we believe that the daily use of alcoholic beverages is injurious to the physical well-being of those who use it.

A communication from L. S. Mace, referring to the appointment of a committee of those interested in certified milk, was read and referred to the Council with power to act.

C. G. Kenyon moved that the American Medical Association be cordially invited to hold its next session in Los Angeles. Seconded and carried.

C. D. Lockwood moved the thanks of the Society be extended to the citizens of Sacramento for their courtesy and the very great attention to the entertainment of our members, and that the thanks of the Society be extended to the Sacramento Society for Medical Improvement. Seconded and carried.

The minutes of the second session were read and approved.

There being no further business, the House of Delegates adjourned sine die.

PHILIP MILLS JONES,
Secretary.

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## REPORT OF THE CALIFORNIA STATE BOARD OF MEDICAL EXAMINERS.

By J. HENRY BARBAT, M. D., San Francisco.

The Board convened on May 21, 1909, and elected the following officers: Drs. Geo. F. Reinhardt, President; D. L. Tasker, Vice-President; Chas. L. Tisdale, Secretary, and Chas. Clark, Treasurer.

The first examination took place Aug. 3rd, 1909; 141 applicants took the examination, of which 92 passed and 49 failed; 83 were graduates from California colleges, 58 passing and 25 failing.

The second examination took place Dec. 7th, 1909; 97 applicants took the examination, of which 66 passed and 31 failed; 38 were graduates from California colleges; 25 passed and 13 failed.

The third examination took place April 5th, 1910; 90 applicants took the examination; the reports are not yet in as to the number that passed or failed.

Comparing the figures of the present Board with the Board of last year, we find that they are practically the same in regard to the percentage of those passing, the proportion being about 67 per cent, for instance:

In April, 1909, 71 applicants took the examination, of which 48 passed; 23 failed.

In August, 1909, 141 applicants took the examination, of which 92 passed; 49 failed.

In December, 1909, 97 applicants took the examination, of which 66 passed; 31 failed.

April, 1909, 68 per cent passed.
August, 1909, 65 per cent passed.
December, 1909, 68 per cent passed.
Average for the year, 67 per cent.

A new rule adopted by the board has resulted in general satisfaction; that is, while formerly the questions given were the individual work of each examiner, the present board has adopted the rule that all questions shall be presented to the entire board for their consideration, and therefore, every question asked is sanctioned by the entire board. Also, twelve questions are given on each subject from which the applicant may select any ten to be answered.

Some question has been raised regarding the policy of the board in reference to the prosecution of illegal practitioners.

While there have been sporadic efforts to prosecute those who practiced medicine in this State without having secured a license to do so, there has never been any systematic work in this direction. Individual effort in various places, notably San Francisco, some years ago, Los Angeles and San Jose and some other places, has resulted in the conviction of some few individuals for this offense. But never has an attempt been made to cover the whole State or to create machinery covering the whole State which would tend to prevent unlicensed persons from practicing any form of the healing art. Up to August, 1907, local or county prosecuting officers were supposed to do this work; but they never did. After 1907, it became the duty of the Board of Medical Examiners to prosecute violators of the law. But the board was burdened with a duty and not provided with funds with which to perform it. In Los Angeles a member of the board, Dr. Mattison, and in San Jose another member of the board, Dr. Cothran, did excellent work in prosecuting such offenders; but it was merely sporadic and after a time the effort ceased; personal energy is soon exhausted in what is really not one's particular business.

Viewing the situation broadly, one finds two forms of quack. The worst is the physician who has obtained a license and has then prostituted his profession by engaging in open and shameless advertising quackery. Of this type may be cited Chamlee, the notorious advertiser of "cancer cure," and Arberry, a mere tool of Joslyn or Jocelin, whose license was revoked in 1905. A great many complaints come to us regarding advertising quacks, and upon investigation it is found that the individual complained of is a licentiate and is advertising in such a way that he cannot be reached. In the case of Chamlee, for instance, the attempt was made to revoke his license and the case appealed to the Supreme Court; but the decision was adverse to the board and Chamlee is allowed to go his deadly way without interference. Many of those who complain, do not understand this condition of things and feel aggrieved that the board does not stop such quackery. Another notorious quack is "Fer Don," who always has some licensed physician with him to do the prescribing, operating, etc. Once or twice we have almost had enough evidence to convict Fer Don, but the patients would not testify.

A lesser evil is found in those who are quietly practicing medicine without a license, and of these there are doubtless a good many in the State. After giving the matter a good deal of attention the board concluded to see if a plan could not be developed which might be applied all over the State to the detriment of this form of illegal practice. The proposition is by no means a simple one, however, when you consider that for the 34 years that we have had a medical law, no systematic effort has been made in this direction. Judges do not know the law or the decisions, and most attorneys and prosecuting officers are in the same fix. A considerable piece of machinery has got to be constructed from the very bedplates up. Our attorney is now at work upon this plan and has in preparation a monograph which will quickly explain to judge and local lawyer exactly what is the law, where each point has been sustained, what form of procedure is permissible and what is not, what evidence may be admitted and what excluded, and each point with its various references and citations of decisions. It is proposed to have, eventually, in each county and in each considerable community, an attorney who will be thoroughly posted on the law and the procedure, to watch out for violations of the law. It is also proposed to ask the next Legislature for an appropriation to cover this work, and we have a reasonable hope of securing such an appropriation. But all of this takes time and thought and a good deal of work, so it will probably be some months before any progress is noticeable. There are a good many common errors and it takes time to correct them. For instance, most lawyers and nearly all doctors think that it is necessary to prove that a man has not a license. That is not the case; it is not the duty of the board to prove anything of the sort. The Supreme Court has decided that the accused must prove that he has a license, if he holds one, and the prosecuting officer or the board is not required to produce the records of the board to show that a license was not issued. This leads to some confusion and at times to a feeling that the board is negligent when such is not the case.

It sounds simple to say "Prosecute," but when you undertake to study the matter fully and look over the whole situation it does not appear to be so simple a matter. We are confident, however, that we are now on the right track and that eventually the machinery will be in operation which will exclude all those who have not the necessary qualification to practice, from so doing.

At the December meeting in Los Angeles the board decided to retain the services of W. W. Kaufman, of the firm of Stratton & Kaufman, of San Francisco, for the purpose of prosecution of illegal practitioners. Mr. Kaufman has been busily engaged since that time in perfecting a number of cases which we hope very soon to be able to prosecute, with a fair hope of winning.

Some comment has also been made regarding the amount of money expended by the board. The following will give an idea of the regular annual expenses of the Board of Examiners.

| | |
|---|---|
| Secretary | $1200 |
| Clerical Assistance | 900 |
| Rent | 360 |
| Telephone | 75 |
| Printing and Postage | 250 |
| Towel Service | 9 |
| Per diem and Traveling Expenses of Members | 2310 |
| Watchers for examination | 200 |
| Rent for Halls for examination | 300 |
| Janitors, Expressage, etc | 105 |
| Paper for examination | 300 |
| Advertising of Meetings | 100 |
| | $6109 |

Following figures will show the moneys received and disbursed by the board since the new medical law went into effect:

| | |
|---|---|
| Receipts from May 1, 1907, to Dec. 31, 1907 | $4987.35 |
| Disbursements from May 1, 1907, to Dec. 31, 1907 | 4350.83 |
| Bal. on hand Dec. 31, 1907 | $ 636.52 |
| Receipts from Jan. 1, 1908, to Dec. 31, 1908 | $7614.05 |
| Disbursements from Jan. 1, 1908, to Dec. 31, 1908 | 6295.67 |
| Bal. on hand Dec. 31, 1908 | $1954.90 |
| Receipts from Jan. 1, 1909, to Dec. 31, 1909 | $7458.25 |
| Disbursements from Jan. 1, 1909, to Dec. 31, 1909 | 7562.38 |
| Bal. on hand Dec. 31, 1909 | $1850.77 |

The following amounts were received and disbursed on account "penalty for illegal practice":

| | |
|---|---|
| Receipts May 1, 1907, to Dec. 31, 1907 | None |
| Disbursements May 1, 1907, to Dec. 31, 1907 | $ 740.00 |
| Receipts from Jan. 1, 1908, to Dec. 31, 1908 | 1198.25 |
| Disbursements from Jan. 1, 1908, to Dec. 31, 1908 | 649.40 |
| Receipts from Jan. 1, 1909, to Dec. 31, 1909 | None |
| Disbursements from Jan. 1, 1909, to Dec. 31, 1909 | 1001.77 |
| From May 1, 1907, to Dec. 31, 1909, disbursements exceed receipts by the following amount | $1192.92 |

The following are some examples of answers to simple questions at the last examination:

Septic Tank is used as a filter and prevents and separates the anarobic bacteria from the arobic bacteria, and the water which goes through this tank can be utalized without fear of confirmation. No. 1 T contains the anarobic bacteria and can be cleaned out from time to time. No. 11 T contains the arobic bacteria and can also be cleaned out. I am *coating* Egberth Hygiene.

The first tank contains aerobic bacteria and the second anaerobic bacteria, consequently neither can live.

A septic tank is one where refuse matter fluids, feces, serrage, lodge and decays. Open to contamination, and disease. It is from a curve or coil in the pipes.

The white matter of the brain has the appearance under the scope of a homogeneous mass not so many cells and much granular matter and seems to be a protective to the gray apparently.

And inhabits the small intestine where it sets up its method of propigation.

The epithelium do not match up well, forming pseudo cripts.

Markings of a *liar* on its back. Mosquito.

Syphillus Sypalus for syphilis. Anis for Anus. Hucklets for Hooklets. Gall ducks for Gall ducts. Fischers for fissures. Pillows of faucies. Hematically tight for Hermatically tight. Anklyosis Stomatis for Ankylostomiasis.

It is a very doey organ. Oxogenises the blood. Oxogen factory for the body (lung). Glucose Factory (liver).

The organs of degeneration.

The tuberculous patient should not kiss any of his relatives.

## AUDITOR'S REPORT.

January 28, 1910.

Medical Society of the State of California,
San Francisco, Cal.

We beg to report that we have examined the accounts of the Society kept by your Secretary for the year ended December 31, 1909. The receipts and disbursements for that period have been as follows:

RECEIPTS.

| | |
|---|---|
| County Societies and subscriptions | $5,773.00 |
| Journal advertisements | 4,433.01 |
| Journal miscellaneous | 64.15 |
| Office Expense: | |
| Rent from San Francisco Society | 215.00 |
| Miscellaneous—reprints, etc. | 44.90 |
| Loans—sundry persons | 2,000.00 |
| Society expenses | 1.05 |
| Binders | 138.90 |
| Total | $12,670.01 |

DISBURSEMENTS.

| | |
|---|---|
| Fixtures | $ 5.11 |
| Journal | 3,667.00 |
| Interest | 138.75 |
| Loan repaid | 2,000.00 |
| Office expenses | 617.62 |
| Miscellaneous | 37.50 |
| Salaries | 4,680.00 |
| Society expenses | 788.08 |
| Binders | 150.00 |
| Total | $12,084.06 |
| Excess of receipts over disbursements | 585.95 |
| | $12,670.01 |

As at December 31, 1909, the financial position of the Society was as follows:

ASSETS.

| | |
|---|---|
| Paper in stock | $ 323.90 |
| Fixtures at book cost | 1,080.49 |
| Due from advertisers | 348.88 |
| Supplies, stationery, etc. | 75.00 |
| Petty cash | 200.00 |
| Money in bank—Union Trust Co. | 133.83 |
| Total | $2,162.10 |

LIABILITIES.

| | |
|---|---|
| Loans | $2,000.00 |
| Interest on notes | 40.20 |
| Excess of assets over liabilities | 121.90 |
| Total | $2,162.10 |

We have seen vouchers for all disbursements and have compared the receipts on account of the JOURNAL with all the advertisements which have appeared during the last twelve months. The final balance in bank has been duly verified.

(Signed) McLAREN, GOODE & CO.,
Certified Public Accountants.

# URTICARIA—WITH SPECIAL REFERENCE TO THE CAUSE IN THE PAPULAR FORMS OF CHILDREN.*

By ERNEST DWIGHT CHIPMAN, M. D., San Francisco.

Statistics compiled by the American Dermatological Association, averaging approximately thirty thousand cases annually, and representing prinpally the returns from the larger Eastern centers, offer some interesting bases of comparison with the records of the Pacific Coast. While many of the important dermatoses occur with practically the same relative frequency East and West, there are some marked variations. The most striking divergence is seen in urticaria.

In these records of Eastern cities for the year 1907 the percentage of cases of urticaria was two and five-tenths, while statistics compiled from over eleven hundred consecutive cases in the Cooper College clinic of San Francisco showed a percentage of six, or relatively more than twice as many.

It might be objected that a comparison of one thousand with thirty thousand cases allows too wide a scope for the element of chance variation. The examination of the Eastern statistics, however, dispels this doubt, for considering the returns by cities, whose totals range from five hundred to six thousand cases each, we find the lowest rate to be five per cent and the average of all, as stated, two and one-half per cent.

The fact is, then, that in San Francisco we see relatively twelve times as many cases of hives as in one Eastern city and fifty per cent more than in any Eastern city. How can this difference be explained?

Inasmuch as there are various forms of urticaria, it would seem proper in seeking an answer to this question to inquire if in our cases any one type occurred with special frequency. Urticaria, beside being divided into acute and chronic forms, is classified upon a basis of lesions, such forms being recognized as urticaria papulosa, urticaria bullosa, urticaria hemorrhagica, urticaria factitia, etc. Considered from a strictly lesional standpoint, the primative element is the wheal. In children particularly, however, a form occurs in which the most noticeable lesion is a papule upon the apex of which is an excoriation or a blood-stained crust. Wheals may or may not be present. It is a form which tends especially to chronicity. In England it commonly goes by the name of lichen urticatus or prurigo urticans, while in Germany and Austria it is spoken of as strophulus. Stelwagon mentions it as a rare form in this country, but of our series it has formed by far the largest part.

Our question, therefore, is not why have we more urticarias, but why have we more chronic papular urticarias of children? The answer involves scrutiny of the causes of urticaria.

The causes of urticaria are at best complex. They may be considered as predisposing and exciting. Chief among the predisposing causes must certainly be reckoned a degree of nervous unbalance —a certain excitability of the vosomotor centers which renders them particularly responsive to slight sensorial irritations. This phase of the disease is passed over rather lightly by American authors in comparison with French writers, who dwell at length on nerve insufficiency. Says Merklen in *La Pratique Dermatologique*, "A nervous asthenia is often the origin of urticaria. When it is inherited it is a sort of degeneration or malformation. When it is acquired it commonly follows fatigue, depressing occupations, or occurs in the course of debilitating affections."

In the same article are quoted several curious examples from Alibert, who first described chronic urticaria. First is the account of four young girls of the same family affected with this trouble for some years. They were all chlorotic and probably hysterical. They all had depraved appetites, eating earth, charcoal, candles, etc. Another subject was a young woman who could not enter a drawing-room without suffering with sudden erythematous lesions which prevented her enjoyment of dancing and other recreations. A certain ecclesiastic dared not preside at a service because of eruptions occuring at such times which caused him to scratch with great violence.

Most severe of all was the case of a woman urticarial for ten years, and who could not speak without the development of an urticarial eruption which burned and itched excessively. It does not seem strange that this woman became a profound melancholiac with perverted senses of touch, taste, smell and sight.

In the case of a young man of twenty-eight years who had had hives from infancy, the disease was remarkable for its transition from the skin to the mucous membrane and *vice versa*. As soon as he arrived in a heated atmosphere his gums swelled and his breathing was labored, but the least draft of air relieved him because it caused the eruption to shift to his skin, the change being effected in a few seconds.

It is worth while to recount these cases because, aside from their historical interest, they carry along with them the suggestion of one dominant etiological note, namely an abnormal condition of the nervous system.

The list of exciting causes is so long that it embraces nearly every conceivable sort of irritation either external or internal, from the slightest draft of air—warm or cold—to hydatid cysts. It includes contact with any irritating substance, animal, vegetable or mineral, thermal influences, sunlight, gastro-intestinal intoxication, gastro-intestinal irritability from medicines, dyspepsia or worms, sensorial irritations from asthma, from eye strain or from abnormal conditions in nose or mouth. It is attributed to various infections and intoxications, as malaria, uremia and jaundice. Traumatisms, shock and worry are freely mentioned, as are neuroses such as Basedow's disease, epilepsy, hysteria and neurasthenia.

According to many observers the bites of insects give rise to an urticarial reaction, the lesions occur-

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

ing at the point of attack. This corresponds to the "directly provoked urticaria" of Bazin. Kaposi, however, observed that the urticarial eruption may appear at a distance from the original punctures as a result of a reflex irritation. In predisposed subjects this would determine a generalized pruritus together with such an irritability of the skin that the least scratching or even the simple contact with clothing would provoke urticarial wheals.

Kilroy of Springfield, Massachusetts, in a personal communication, relates the case of a boy who suffered from a generalized outbreak of hives following the sting of a wasp.

De Ranse has reported a case involving the upper half of the body after a hornet had stung the esophagus.

Urticarial eruptions following the wounds made by leeches have been reported. If the question arises whether the reaction is of toxic or reflex origin, the fact that such reactions occur more frequently after the application of the leech to the genital or sacrogenital sphere would rather incline one to the theory of reflex origin.

The theory of Wright that urticarial lesions are produced by reason of diminished coagulability of the blood has attracted wide notice. Many practitioners have doubtless prescribed the salts of calcium with the expectation that the old lesions would rapidly fade away and no new crops occur. My personal experience with these salts has been disappointing.

Chenhall, discussing "The Relation of Urticaria to Gynecology," concludes that all cases except those due to local irritation are due to a form of poisoning by toxins in the circulation acting directly on the peripheral vasomotor mechanism or on the endothelial cells of the capillaries, thus producing wheals. He finds it difficult to accept the view that all or even any cases are of reflex origin, nor does he find any warrant for affirming a direct causal relationship between lesions of the reproductive organs and urticaria.

Ravitch emphasizes the part played by the thyroid in the production of chronic urticaria, apparently finding both hyperthyroidism and hypothyroidism causal factors.

The appearance of urticarial eruptions following the injection of diphtheria antitoxin is a matter of common observation, but Walsh reports a post-diphtheritic urticaria in one case in which no antitoxin had been administered.

Hiershberg finds gastric hyperacidity a frequent accompaniment of chronic urticaria and mentions trichinæ and hydatid cysts as occasional causes.

Goldberger and Schamberg report an epidemic occuring around Philadelphia of what they call "straw-mattress urticaria." The lesions were primarily wheals. Upon the summit of the wheals there developed vesicles which later became pustules. A careful investigation showed the exciting cause to be a mite which was isolated from the straw that was used for mattresses.

Jonathan Hutchinson has recently taken the advanced position that urticaria pigmentosa is always due to the bite of some blood-sucking insect, which insect is in nearly all cases the cimex lectularius or common bedbug. He also maintains that the eruptions known as lichen urticatus, our urticaria papulosa, are due to the bites of fleas. "It is certainly a mistake," he says, "to imagine that the local effects of insect punctures are always transitory. The effects vary within very wide limits indeed, in connection with the proclivities of the patient. Another point of great importance is that these attacking insects manifest very marked aptitudes of selective preference. Fleas will attack one child in a family and avoid all the rest, and it is the same with bugs, gnats and flies. A flea may cause in one person only a minute spot of erythema, in another a large urticarial wheal, and in a third a vesicle or even a bulla which might be regarded as 'pemphigus.'"

Certain of our own observations tend materially to confirm these contentions. First of all, San Francisco is notorious as the favorite habitat of the flea. The San Francisco flea is quick to detect the stranger within the gates and for him shows the most distinct selective preference. We invariably propound two questions to the suspected urticarial patient. The first one is "How long has the eruption been present?" and the other is "How long have you been in San Francisco?" The answers to these two questions are in a large proportion of our cases identical. There is such a definite coincidence between the length of residence in San Francisco and the duration of the eruption that a berth in the sleeping-car is often thought by the patient to be the source of infection. It is a particularly striking fact that many cases develop immediately upon their arrival from interior and eastern points, and it can only signify that certain conditions exist here which do not exist at all or to so great an extent elsewhere.

Moreover, in all the cases we have seen for several years each patient has been carefully examined for the typical erythematous spots with punctate center, and not once in the writer's recollection have they been wanting when dealing with the papular form.

The fact that in so many cases of scabies either urticarial wheals or urticaria factitia can be observed is also suggestive of the important part played by animal parasites in the production of real urticarial lesions.

Again, it has been shown that when, in a generalized urticaria, one protects hermetically one part of the body—a leg for example—the urticarial phenomena disappear at once upon that point. What then are the conclusions to be drawn? Not every subject of flea-bite, not every victim of disordered thyroid, not every partaker of shellfish, reacts with an urticarial eruption. Considering all the assignable exciting causes, there is not one which constantly produces the cutaneous reaction: some pre-existing and predisposing cause is necessary. The commonplace explanation is intestinal putrefaction, but it is certainly debatable whether this prevails more in urticarial subjects than in those free from the disease. Moreover, no one who has thoroughly treated many cases of chronic papular

urticaria in children with salines, intestinal antiseptics, etc., can seriously contend that they are in any extended sense successful remedies.

Our disposition is to accept as predisposing cause some condition of nerve insufficiency. What in turn causes that, we do not know. Whether it is a poor inheritance, whether it involves questions of internal secretion or complex problems of biochemistry, or something still more remote, is for us yet to seek.

For the present we consider as efficient causes of the chronic papular urticarias of children two factors, namely, first, a predisposing nerve unbalance—a condition of increased sensitiveness to sensorial irritation—and second, as exciting cause, the sensorial irritation itself.

In San Francisco all children for whom fleas have a liking are bitten. Those children in whom the efficient predisposing cause exists react with a papular urticaria.

**Discussion.**

Dr. E. C. Fleischner, San Francisco: One point of importance is the effect of gastro-intestinal disturbances in these cases. Dr. Porter will agree that we frequently see children in which the gastro-intestinal upset is responsible for the urticaria. This is especially true when the fat content and starch content of the food is too high. It is common in children in the second year when the child is kept on milk and gruels. If you put these children on skim milk and remove the starch in the diet giving vegetables, meat and a dose of calomel these particular children will get over these attacks of urticaria irrespective of flea bites. However, I do think that here in the West fleas play a large part in the etiology.

Dr. H. E. Alderson, San Francisco: The flea is becoming a very important member of the community, particularly since the recent plague troubles, and now the prominence given it in connection with urticaria makes it apparent that we should be more diligent than ever in looking for some means of getting rid of this parasite. All dermatologists agree that the commonest cause, if not the exciting cause, of urticaria is some form of gastro-intestinal indigestion. Every child that is bitten by fleas does not have urticaria, but a large percentage of urticaria cases which appear at the clinics are in children coming from other climes (the East usually), and children with gastro-intestinal troubles. I can confirm what Dr. Chipman has said with regard to the prevalence of lichen urticatus here. I know from my own experience that we see relatively more cases of lichen urticatus here than in Baltimore, Boston or New York. The occurrence of urticaria with asthma is a very interesting thing. The medical man has observed this more than the dermatologist, because the urticaria that develops with or after asthma is a transient affair. Concerning the pathology of the condition, I saw a great deal of work done by Gilchrist in Baltimore, in which he made biopsies or lesions of factitious urticaria, and the conditions observed were dilatation of the vessels with an outpouring of polymorphonuclears with rapid fragmentation of the nuclei, suggesting the presence of some circulating toxin. It has been my observation that urticaria occurs rather frequently in Honolulu in newcomers, and is usually due to the indigestion that develops shortly after arrival there as a result of eating all kinds of fruits and fish and it is often excited by the bite of a tiny ant which is prevalent there. This ant seems to perform the role which the flea plays here.

Dr. Langley Porter, San Francisco: There are two points that have been brought up, one in this paper and one in the discussion of Dr. Fleischner, and they do not seem to me to be in opposition. Dr. Chipman's contention is that the papular urticarias result from local irritations such as flea bites acting upon a skin sensitized by some toxin which unbalances the nervous system. We know rachitic children with intestinal symptoms have this nerve unbalance, which is evidenced by such manifestations as convulsions and laryngismus. The proof that Dr. Chipman's contention is correct is evidenced by the treatment. You cannot cure a papular urticaria simply by remedying the gastro-intestinal condition unless at the same time you get rid of the flea; but you can take children who have definite gastro-intestinal disturbances and put them into bed, protecting the bed from the invasion of fleas by the use of Keating's powder, and the urticaria will promptly clear up and will not return so long as these conditions are maintained in the sleeping quarters.

## CLINICAL FEATURES OF ENDEMIC GRIPPE IN CHILDREN IN SAN FRANCISCO AND VICINITY.

By SANFORD BLUM, M. S. M. D., San Francisco.

Observations embracing the period from 1898 to the present time have shown that grippe, caused by the Pfeiffer influenza bacillus, is constantly present in San Francisco and the nearby cities. In a large number of acute respiratory affections, studied in private practice and in the Pediatric Clinic of the University of California, influenza bacilli have been identified as the causative agent. Owing to the prevalence of mixed infections and overgrowth by other microorganisms, the isolation of Pfeiffer's bacillus in culture, has been only occasionally successful. I have, however, secured some pure cultures. In smears prepared from sputum, nasal discharge and swabs from the throat, influenza bacilli have been readily identified. In the STATE JOURNAL, September, 1908, Dr. H. C. Moffitt has described the general clinical features of influenza as observed by him in this locality. I shall here indicate the characteristic peculiarities of this disease as it occurs in infancy and childhood in and about San Francisco.

Endemic grippe occurs most frequently in the winter and spring months; but it may appear at any season. Its development is favored by atmospheric variations; rapid changes from wet or foggy condition to hot, sunny weather, with attendant wind and dust, especially favor its development. Fresh cases occur regularly in the clear, sunny and dusty days which succeed each rainy spell during the mild San Francisco winter and early spring. No age is exempt, though cases in early infancy are rare, owing, I believe, to the greater protection from the elements exercised during this period and the comparative isolation from infected individuals. Cases during the first year of life are common, occurring consistently in families where the nurse or some other member of the household, afflicted with the malady, comes into close association with the infant. The majority of cases occur in the first five or six years of life.

The disease is exceedingly infectious, not infrequently attacking one member of a family after another, though all may be exposed at the same time.

Many escape infection. The incubation period is one to three days. Cases of this class present respiratory, febrile, nervous and gastroenteric symptoms; but the respiratory symptoms predominate to such a degree as to outclass the others and to relegate them to positions of merely secondary importance. I have occasionally seen older children who presented febrile or gastroenteric symptoms of grippe, without respiratory symptoms; however, these cases have been so infrequent that they may be regarded as exceptional. The cases occurring in infancy have invariably presented initial respiratory symptoms, to which later, often but not always, evidences of gastroenteric disturbances were added.

As a class, the local cases of influenza in infancy and childhood present the following definite train of symptoms. The onset is abrupt and is attended by fever, malaise, headache and pain, anorexia, and especially by coryza.

*Fever:* The temperature is moderately elevated. In an infant eight months of age the rectal temperature remained around 101° Fahrenheit throughout the first week; in a twenty-months-old baby the rectal temperature was 103° the first day and hovered between 99° and 102° throughout the first week. The fever is rarely high, except when complications such as otitis or mastoiditis are present—and it is then attributable to the complication. The skin at first is hot and dry; there are periods of profuse perspiration, accompanied by chilliness, caused by evaporation from the moist surface. The face is suffused, the eyes bright. Pulse and respiration are accelerated proportionately to the degree of fever. After the first "week" the temperature recedes to normal, though it may temporarily flare up with any new extension or exacerbation of the infective process.

*Malaise: Headache and Pain:* There is a mild degree of prostration. Older children complain of being tired or have headache and pains in the back and limbs. Infants refuse to nurse and are restless and uncomfortable or somnolent and may vomit. Headache may be aggravated by each paroxysm of coughing. Instead of pain in the limbs there may be simply a tired feeling. Prostration of a degree approaching that which accompanies grippe on the Atlantic coast does not occur or, at most, is exceptional.

*Coryza and Respiratory Catarrh:* The respiratory tract presents the cardinal symptoms. For two or three days preceding the onset of the malady there may be prodromal symptoms, evidenced by sneezing and slight nasal discharge. Pronounced rhinitis ensues; there is a copious watery discharge from the nose at times tinged with blood; the turbinates are swollen, often to such an extent as to occlude one or both nostrils. This mechanical hindrance to nasal respiration prevents infants from nursing and causes them to keep the mouth open and to breathe through the mouth. From the nose the infection extends along the lachrymal canals to the eyes, with resulting conjunctivities. By extension from the nose, or synchronously with its infection, pharyngitis occurs. The pharynx is red and swollen; the tonsils are enlarged and inflamed and may contain a few isolated, white plugs. The inflamed area extends forward over the anterior pillars of the fauces and about one-third of an inch on to the soft palate. At this stage of the disease there is lachrymation, nasal discharge and cough. Considerable discharge from the inflamed parts is expectorated by older children, swallowed by infants. The process may advance no further; in the mildest cases resolution occurs from this point and recovery within two or three days ensues. In another, the common class of cases, the infection continues to advance. It may successively involve the larynx and the bronchi, with resulting laryngitis and bronchitis; in many cases it attacks the bronchi without perceptibly affecting the larynx. With laryngitis occurs the characteristic barking, laryngeal cough, accompanied by pain in the larynx. The bronchitis presents relatively few symptoms, the most prominent being severe, spasmodic cough, a few squeaking rales on inspiration, and copious expectoration. The cough is worse in the morning when nummular sputum is expectorated. The sputum in typical cases, at this stage, is copious and has a golden yellow color.

The digestive tract may become involved through the infant swallowing infectious matter from the air passages. The resulting gastroenteric catarrh manifests itself by anorexia, vomiting and diarrhea. The stools are thin, greenish and slimy. Infants usually vomit at the beginning of the digestive disturbance.

*Complications:* The most frequent complication is otitis. Even in mild cases often there is partial deafness and earache, due to swelling and occlusion of the pharyngeal extremity of the eustachian tubes. If the infection extends along the eustachian canal to the middle ear, serious or purulent otitis media ensues. This is the commonest complication. Mastoid involvement occurs occasionally. Pneumonia is, in this vicinity, an infrequent complication. The heart and kidneys are ordinarily not affected.

*Course: Abortive Form:* Recovery takes place after two or three days of mild rhinitis or nasopharyngeal catarrh in a few cases. These constitute an abortive type of the disease. The average duration of the disease is about ten days; it may last only a week or it may extend over three weeks, without presenting any unusual phenomena. Probably climatic conditions exercise the greatest influence on the duration of the illness; cool, equable weather favors recovery; sultry, dry, or changeable weather retards it. Recovery from the attack may forthwith be complete; in a large proportion of cases, however, there is protracted convalescence, due to persistence of bronchitis and nasopharyngitis. Pain and fever disappear with the subsidence of the active infection; but coughing, expectoration and nasal discharge may persist as long as the bronchitis and nasopharyngitis. Rarely a severe type occurs which, accompanied by high fever, great prostration and severe neuralgic pains, resembles epidemic influenza. Apart from the abortive attacks mentioned above, endemic grippe always leaves the child more depressed than ordinary catarrhal infections.

*The diagnosis* is made from the clinical symptoms described above, together with the discovery of influenza bacilli in the discharge from the infected parts. The bacilli are present in the sputum and nasal and conjunctival discharges; and may be obtained on swabs from the pharynx, tonsil, etc. They are delicate, short rods, two or three times as long as they are broad, with rounded ends, nonmotile and noncapsulated. They occur in pairs, chains, or clusters. Owing to their diminutive size, when occuring in pairs, they resemble diplococci. They lie chiefly between the cells, in the mucoid basement substance. They stain readily; a particularly satisfactory preparation is secured by staining about twelve minutes with fresh carbol-fuschin solution, with or without heating. Influenza bacilli decolorize by the Gramm method. Cultures may be obtained by spreading the infected material upon fresh blood, superposed upon slant agar. Human or pigeon blood is suitable for this purpose. In culture the colonies appear as minute, transparent, dewlike droplets. The colonies appear within twenty-four hours.

*Differential Diagnosis:* Endemic grippe may be differentiated from ordinary catarrhal bronchitis by (1) the history of exposure to grippe; (2) the more violent onset of grippe, with its attendant pronounced systemic disturbances; (3) the disproportion of the symptoms in grippe to physical signs of bronchial involvement; (4) the greater obstinacy of grippe; (5) the implication of other mucous surfaces, nasal, conjunctival, etc., in grippe; (6) the identification of influenza bacilli in grippe. From the early stage of measles grippe may be differentiated by (1) the history of exposure to cases of grippe or measles, or the prevalence of either of these diseases; (2) the different appearance of the pharyngeal and oral mucus membrane. In grippe there is diffuse redness of the tonsils and pharynx; in measles there is an eruption of discrete spots on the soft palate and buccal mucous membrane; (3) the eruption of the measles rash on the fourth day; (4)the identification of influenza bacilli. The differentiation of grippe from pertussis is at times exceedingly difficult. It depends upon (1) the history of exposure; existence of one or the other malady in the house or locality; (2) mode of onset. Marked fever, malaise, neuralgic pains speak for grippe and against pertussis. Prolonged continuation of paroxysmal cough without fever inclines to the diagnosis of whooping cough as opposed to grippe. The crowing inspiration characteristic of whooping cough is usually, but not always, absent in grippe. Grippe and whooping cough may co-exist. The differentiation of grippe from typhoid is ordinarily simple, the only point in which local endemic grippe resembles typhoid being in the prominence of fever in both. But the fever in grippe is essentially irregular, reaches its maximum within the first three or four days, and quickly subsides; while in typhoid the fever ascends regularly, takes longer to reach its maximum and descends deliberately. While the recognition of influenza bacilli in the mucous discharges, taken alone, does not warrant the diagnosis of grippe, their identification in the mucoid discharges of patients presenting grippe's clinical symptoms establishes it. On the other hand, a positive Widal reaction confirms the diagnosis of typhoid, although a negative reaction does not exclude it.

*Prognosis:* The individual attack of endemic grippe encountered in San Francisco terminates in recovery. But the child may harbor the germs for years and suffer repeated recurrences. In April, 1904, a I saw a three-year-old girl who was suffering with grippe; there have been recurrences each winter since then and the child at this time has an acute attack.

*Treatment:* There is no known specific. In the initial stage, if pharyngitis alone is present, sometimes a cure may be effected by swabbing with two to five per cent solution of silver nitrate. The patient should remain in bed as long as fever is present. Diet should be nourishing but not irritating; in infants it should be considerably reduced during the febrile stage. The bowels should be evacuated by a brisk purge in the beginning of the attack and should subsequently be kept free. For the headache and neuralgic pains the coal tar preparations are efficient remedies. For the nasopharyngitis spraying with mild, antiseptic alkaline solutions excels other modes of medication; an important function it performs is prevention of otitis by keeping the pharyngeal eustachian orifices clear. In many cases the iodides appear to act favorably in the early stages of grippal laryngitis and bronchitis. Later belladonna acts well in drying the secretions. Salol is valuable, especially when there is gastroenteric involvement.

Grippe as it occurs in San Francisco is identical with grippe of the Atlantic Coast and Europe in its etiology and pathology. There is, however, remarkable difference in the clinical manifestations; grippe in this vicinity presenting so comparatively little systemic disturbance that even at this time its endemic occurrence is not generally recognized nor its significance adequately appreciated.

## OFFICERS OF THE UROLOGICAL ASSOCIATION.

At the meeting of the Pacific Coast Branch of the American Urological Association, on April 19, 1910, at Sacramento, California, the following members were elected to their respective offices: G. Sherman Peterkin, Seattle, president; R. L. Rigdon, San Francisco, vice-president; Louis Gross, San Francisco, secretary.

## NEW AND NON-OFFICIAL REMEDIES.

Since March 1, the following articles have been accepted by the Council for New and Non-Official Remedies:

Carbosant (Heyden Chemical Works); Mammary Substance (Armour & Co.); Ovarian Substance, desiccated (Armour & Co.); Parotid Glands, desiccated (Armour & Co.); Spleen, desiccated (Armour & Co.); Thymus, desiccated (Armour & Co.).

## DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by Fred I. Lackenbach.

(Devoted to progressive pharmacy, to the United States Pharmacopeia and National Formulary Propaganda Movement and to the New and Non-official Remedies of the Council on Pharmacy and Chemistry of the American Medical Association.)

### INTRODUCTORY.

The STATE JOURNAL has for some years past conducted a vigorous campaign against the nostrum and proprietary-medicine evil. While the object was primarily to protect the practitioner by exposing misrepresentation and proprietary-medicine frauds, an immense amount of good has been done the cause of legitimate pharmacy. The medical press has gained little recognition for this service, probably owing to the fact that neither medicine nor pharmacy realized to what an extent the physician was being influenced by the agitation. An examination of two hundred prescriptions representing a day's activities in one of our leading prescription pharmacies disclosed the surprising fact that but five per cent called for "non-secret" preparations and that of this five per cent not a single ingredient was readily replaceable by any preparation of the U. S. P. or N. F.

It must be borne in mind, however, that the store from which these prescriptions were taken is situated in the heart of the district where medical men of the highest type are congregated. The movement exerting so potent an influence upon the leaders in the profession is certain to exert an influence throughout the ranks and there is every indication that there will eventually be a return to the more intelligent utilization of therapeutic agents of established merit and known composition.

A great impetus was given to this reform movement when the U. S. P. and N. F. were made the official standards by the enactment of the National and State Pure Food and Drugs Acts, and the final solution was given to a vexed problem in the establishment of the Council on Pharmacy and Chemistry of the American Medical Association.

The movement to popularize the U. S. P. and N. F. has made considerable headway in the East and in many localities the physician and druggist have come together in the interest of both professions.

On this coast the CALIFORNIA STATE JOURNAL OF MEDICINE has been the pioneer in the movement and its columns have now been thrown open with a view to broadening its influence.

Throughout the country there is being taken an extraordinary interest in the revision of the United States Pharmacopeia. Delegates from recognized medical and pharmaceutical bodies and schools, and representatives of the government departments are to meet in Washington during the present month (May, 1910), for the purpose of revising the Pharmacopeia, and it promises to be the most interesting session in the convention's history.

The U. S. P. and N. F. Propaganda movement is essentially educational. It aims to inculcate a knowledge of those therapeutic agents which have stood the test of time, and which because of their definite and determinable composition and known therapeutic properties, have been incorporated into the United States Pharmacopeia and National Formulary.

While the physician may theoretically be familiar with the official preparations, their physical properties and mode of manufacture may be wholly unknown to him. It is this lack of actual knowledge on the part of the practitioner that has expanded the business of the manufacturing pharmacist to such an enormous extent. The propaganda movement seeks to overcome this difficulty through the local druggist introducing to the physician pharmaceuticals of his own manufacture and for which he personally stands sponsor.

The physician in encouraging the druggist to manufacture his own pharmaceuticals inevitably raises the standards of both pharmacy and medicine. No self-respecting pharmacist who has at heart the dignity of his calling would stoop to such practices as counter-prescribing, substitution or sophistication. The physician in encouraging the sale of nostrums and "non-secrets" slings a boomerang that is certain to redound to his own detriment. He reduces an honorable profession to the status of common merchandising with its attendant sharp practices.

Just as there are self-respecting physicians so are there self-respecting pharmacists, and it is the duty of the physician to discriminate in the selection of those who compound and supply him his medicines. To an astonishing degree the physician possesses within his power the making or unmaking of the pharmacist. A patient, who places in the keeping of the physician the matter of his life and health, is prone to be influenced by the physician in the selection of a pharmacist. It is very largely within the physician's power to regulate the practice of pharmacy. His is the opportunity to see that his patient secures the best possible service by encouraging among druggists quality competition, not pecuniary gain for either patient or physician. The pharmacist who possesses the qualification to render the highest class of service is as well entitled to compensation for his skill as is the physician, and it should not be begrudged him.

The United States Government has established a precedent in placing manufacturers of biologic products under government control and supervision. It is just as essential for the public welfare to place pharmaceutical establishments under similar control. Until some such measure can be taken the physician must exercise his prerogative, to the best of his ability, by seeking to eliminate the unfit.

The papers to follow will deal with the official preparations, their physical properties, therapeutic action and doses; the new and non-official preparations; the criticism of prescriptions and suggestions for their improvement, and a discussion of such other matters as are of importance to the physician. The department will be made as interesting and as full of practical value as possible.

## SOCIETY REPORTS

### BUTTE COUNTY.

The regular monthly meeting of Butte County Medical Society was held Tuesday evening, April 12th, at the offices of Dr. Gatchell, at Chico. Dr. D. H. Moulton, vice-president, in chair.

The following members were present: Drs. C. L. Browning, S. Iglick of Orland, D. H. Moulton, F. Johnson, B. F. Spurgeon and Ella F. Gatchell.

A communication from San Francisco County Medical Society, recommending Dr. T. W. Huntington as president of the State Society, was read, and it was voted to endorse the action of the San Francisco County Society, and instruct our delegate to cast his vote for Dr. Huntington.

A paper on some uses of apomorphin was read by Dr. S. Iglick, in which he spoke of some of the less common uses of apomorphin.

A paper on "Quinine Inhalations in the Treatment of Pertussis," by Dr. Samuel Goldman, was also presented. Both papers were fully discussed by members.

The regular meeting of Butte County Medical Society was held at the office of Dr. H. Morel at Chico, May 10, at 8:30 p. m.

Members present: Drs. C. L. Browning, H. Morel, D. H. Moulton, E. F. Gatchell of Chico and E. A. Kusel of Oroville; President E. A. Kusel presiding.

Dr. C. L. Browning of Chico was elected associate editor from Butte County.

Dr. E. A. Kusel presented two clinical cases.

E. F. GATCHELL, Secretary.

### RIVERSIDE COUNTY.

The regular monthly meeting of the Riverside County Medical Society was held May 9th at the Victoria Club as guests of Dr. E. H. Wood. Your communication regarding the Society's action on medical defense and corresponding editor was read. Fourteen members present paid the required fee of $1.00 and heartily endorsed the action the Society had taken in this matter. The secretary of the Society was elected corresponding editor. The application of Dr. R. E. Moss, for membership in the Society was received. We expect a campaign for membership during the summer months, so that next year we hope to have a second representative in the house of delegates.

The Society has planned to hold the June meeting, at which it is customary to have the ladies present, in honor of the newly elected President of the State Society, Dr. J. C. King, of Banning.

The program for the evening consisted of a "Report of the State meeting" by the secretary, who was also the delegate, and Dr. Roblee spoke on "Some Experiences in Surgery During the Past Year." Following the program the members enjoyed the regular banquet and the meeting adjourned at midnight.

GEORGE E. TUCKER, Secretary.

### GOOD SUGGESTION TO OTHER COUNTY SOCIETIES.

The Santa Clara County Medical Society and the Santa Clara Valley Dental Association, in order to form a compact and effective organization to prevent adverse medical and dental legislation in the coming session of the California Legislature, met in conference in March last and appointed the undersigned a joint committee to represent both professions in this county, to ascertain and report to their respective practitioners the sentiments of each individual candidate for the office of Assemblyman and Senator, whether friendly or unfriendly to the medical and dental professions in their efforts for the preservation of the present statutes as they now stand, regulating the practice of medicine and dentistry in this state.

You are doubtless aware that at the last session of the California Legislature a prearranged and virulent attack was made on the integrity of both the medical and dental practice laws of this state, almost successfully; the former partially so by compelling the Medical Examining Board to issue licenses to so-called Naturopaths to practice their cult, while the dental law escaped entire extinction only by the veto of the Governor.

The attacks on both the laws were made in the interests of those who had either failed in tests before the respective examining boards, or had recognized their own incompetence and refused to submit to examination for license to practice in this state. These were urged on and supported by the old-time antagonists of advanced education and reasonable professional qualifications for their own pecuniary ends, and voted for, no doubt through ignorance, to our shame, by the great majority of the legislators from our own county.

Reliable information is received by this committee that the opponents of both the medical and dental laws, who are identical in each case, intend to renew the contest for the emasculation of both laws to the extent of making them inoperative, or failing in this, to endeavor to effect their entire repeal; thus permitting the whole community of this State to be deprived of the safeguards it now possesses against ignorance, incompetence and fraud.

Neither law needs amendment modifying its provision making it easier for the unlettered and unlearned of this or any other state or foreign country to engage in lawful practice. On the other hand, each statute should be strengthened. This latter, however, is deemed inadvisable at the present time, owing to the antagonism we have every reason to expect at the coming session of the Legislature, in which both professions will have to struggle for their very existence, being content to keep for the present such laws as we have, rather than imperil their safety by inviting controversy.

It is not the province nor intention of this committee to dictate to you for whom you should cast your vote at the primary or general elections, but it has the right to assume that you, as a member of a learned profession, would not knowingly vote for any candidate who is hostile to the policy of your profession; who sets up his individual judgment against the combined experience of those vitally interested and who have given these matters years of study, and whose inclination would lead him to pull down and destroy those very fortresses erected by wise legislation for the defense of the people as they now exist in the statutes of this commonwealth.

The committee, therefore, can only request you, and this it does urgently and understandingly, to refrain from pledging your support to any candidate for the office of Assemblyman or Senator until it shall have had an opportunity to interview each and every aspirant for such position concerning the matters set forth above. This will be as speedily as possible, and you will be advised of the result in time to cast your vote knowingly and conscientiously.

Fraternally yours.

J. L. ASAY, M. D., Chairman.
I. A. FRAZER, D. D. S., Secretary.

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|---|---|
| A. E. Osborne, M. D. | J. W. Davy, D. D. S. |
| A. L. Cothran, M. D. | D. E. Nash, D. D. S. |
| H. C. Brown, M. D. | J. H. Bland, D. D. S. |
| H. J. B. Wright, M. D. | A. M. Barker, D. D. S. |

Committee.

### PUBLIC HEALTH LEAGUE.

A most important meeting of various committees and public health organizations was held in Sacramento at the time of the State Society meeting in April. As a result of this conference the many separate activities were welded into one organization known as the California Public Health League, and the following officers and Constitution were elected

and adopted: President, A. A. Bonnheim; First Vice-President, F. C. E. Mattison; Second Vice-President, Elizabeth Ashe; Third Vice-President, George H. Aiken; Secretary-Treasurer, William F. Snow. The Journal will endeavor to publish a fuller account of the purposes, objects and nature of the work of the League in a subsequent issue.

**Name.**

The name of this organization shall be THE CALIFORNIA PUBLIC HEALTH LEAGUE.

**Object.**

The object shall be the co-ordination of effort and the promotion of economy and harmony among all public health organizations and agencies in California.

**Representation.**

All public health organizations and such other bodies as are working for the promotion of public health ends in California shall be entitled to representation in such amount as may be allowed by the Board of Directors, or the Executive Committee of this league.

**Officers.**

The officers of this organization shall be a President, a First Vice-President, a Second Vice-President and a Third Vice-President, a Secretary-Treasurer and a Board of Directors of forty members.

The Board of Directors shall consist of the President, the First, Second and Third Vice-Presidents, the Secretary-Treasurer and thirty-five other members. The chairman of the Board of Directors shall be the president of the league.

The Secretary-Treasurer shall preferably be the Secretary of the State Board of Health.

**Duties and Powers.**

The Board of Directors shall have authority to appoint an Executive Committee of nine members and shall have authority to delegate to this Executive Committee such of its powers and duties as may be deemed wise.

**Quorums.**

A quorum of the Board of Directors shall consist of nine members. A quorum of the Executive Committee shall consist of three members. The President and Secretary Treasurer of the league shall be ex-officio members of the Executive Committee.

**Duties of Officers.**

The duties of the Board of Directors and Executive Committee shall be those which usually pertain to such positions. The Board of Directors and the Executive Committee shall have power to act for the league between annual meetings.

**Meetings.**

This league shall meet annually, preferably at the same place and on the day preceding the annual meeting of the State Medical Society.

**By-Laws.**

The Board of Directors, or the Executive Committee shall have power to adopt such by-laws as in their judgment may be deemed best.

## BOOK REVIEWS

**Health Studies.** By E. B. Hoag, A. M., M. D. Publishers, D. C. Heath, Boston, Mass.; 1909.

The reviewer can find nothing to commend in this book. An endeavor on the part of the author to encompass the salient points of anatomy, physiology and hygiene in a book of 222 pages has, as it necessarily would, resulted in a failure. A. A. O'N.

**Primer of Sanitation.** By Prof. John W. Ritchie. Publishers, World Book Company, New York.

The author of this excellent primer must have the teaching faculty developed to a very high degree, for he has succeeded in presenting for young folks the elementary principles of bacteriology and hygiene in a very simple and entertaining manner, and of supplementing them with many illustrations that are both apt and well executed.

In view of the crusade that is now being carried on against the Great Red Plague, and of the efforts of the medical profession to educate the general public to the dangers and ravages of gonorrhoea and syphillis, the reviewer regrets that the author has seen fit to omit all mention of these diseases. As he very properly states, on page 187: "Everyone, therefore, who spreads a knowledge of disease germs is helping the sanitary condition of his community, for where disease germs go the fear of them and the effort to escape from them will soon follow." The writer believes that at the hands of Prof. Ritchie these subjects could be dwelt upon in a manner that would not give offense to the most fastidious, and that the addition would be welcomed by teachers, parents and guardians. A. A. O'N.

## BOARD OF EXAMINERS, APRIL SESSION.

**Passed.**

| School of Medicine. | Date of Graduation. | Percentage. |
|---|---|---|
| Cal. (Ecl.) Med. Coll., Cal. | 5, 21, 09 | 82.5* |
| Coll. of P. & S., Los Angeles, Cal. | 6, 24, 09 | 76.8 |
| Coll. of P. & S., S. F., Cal. | 5, 14, 08 | 84.6* |
| Coll. of P. & S., S. F., Cal. | 5, —, 06 | 81.2**** |
| Coll. of P. & S., S. F., Cal. | 5, 19, 09 | 80.3 |
| Coll. of P. & S., S. F., Cal. | 5, —, 04 | 79.7 |
| Coll. of P. & S., S. F., Cal. | 6, 6, 07 | 77.8*** |
| Coll. of P. & S., S. F., Cal. | 6, 6, 07 | 75.0***** |
| Cooper Med. Coll., S. F., Cal. | 11, 5, 08 | 81.6 plus 10-91.6** |
| Cooper Med. Coll., S. F., Cal. | 5, 8, 07 | 84.2 |
| Cooper Med. Coll., S. F., Cal. | 5, —, 09 | 80.2* |
| Hahnemann Med. Coll. of the Pac., Cal. | 5, 27, 09 | 81.1* |
| Hahnemann Med. Coll. of the Pac., Cal. | 5, 21, 08 | 81.0*** |
| Hahnemann Med. Coll. of the Pac., Cal. | 5, 27, 09 | 80.5* |
| Univ. of Cal., S. F., Cal. | 12, 16, 09 | 84.3 |
| Univ. of Cal., S. F., Cal. | 12, 16, 09 | 78.2 |
| Univ. of So. Cal., L. A., Cal. | 6, 13, 05 | 79.2 |
| Univ. of So. Cal., L. A., Cal. | 6, 18, 08 | 78.1*** |
| Univ. of So. Cal., L. A., Cal. | 6, 17, 09 | 75.0 |
| Atlanta Coll. of P. & S., Ga. '00 & Am. Ecl. Med. Coll., O. | 6, —, 93 | 87.2 plus 5-92.2 |
| Baltimore Med. Coll., Md. | 5, 22, 06 | 83.0 |

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|---|---|---|
| Chicago Homeo. Med. Coll. '90, & Coll. P. & S., Ill | 4, 20, 97 | 88.8 plus 10-93.8 |
| Cleveland Coll. Phys & Surg., Ohio | 5, 4, 98 | 77.9 plus 5-82.9 |
| Coll. of Phys. & Surg., Canada | 5, 30, 86 | 83.6 plus 10-93.6 |
| Coll. of Phys. & Surg. of Chicago, Ill | 6, 6, 05 | 80.7 |
| Coll. of Phys. & Surg., of N. Y | 5, 12, 85 | 79.3 plus 10-89.3 |
| Columbia Coll. N. Y. (Coll. of P. & S.) | 5, —, 08 | 78.4 |
| Creighton (John A.) Univ. of Med., Nebr | 4, 26, 00 | 79.5 plus 5-84.5 |
| Hahnemann Med. Coll., of Chicago, Ill | 5, 27, 07 | 80.3 |
| Hahnemann Med. Coll., Penn | 5, 17, 00 | 84.4 plus 5-89.4 |
| Harvard Med. School, Mass | 2, 23, 10 | 85.7 |
| Jefferson Med. Coll. of Philadelphia, Penn | 5, 15, 95 | 73.6 plus 5-78.6** |
| Jefferson Med. Coll. of Philadelphia, Penn | 5, 4, 94 | 72.7 plus 5-77.7*** |
| Johns Hopkins Med. Sch., Md | 6, 9, 08 | 88.6 |
| Ky. School of Med., Ky | 6, —, 89 | 72.8 plus 10-82.8* |
| Laval Univ. of Montreal, Can | 6, 18, 04 | 76.3 |
| Laval Univ. of Montreal, Can | 6, 8, 03 | 75.6 |
| Medical Coll. of Ind | 5, 1, 96 | 77.0 plus 5-82.0 |
| Miama Med. Coll., Ohio | 6, 1, 08 | 77.2 |
| Northwestern Univ. Med Dept., Ill | 6, 13, 95 | 70.0 plus 5-75.0 |
| State Univ. of Iowa | 3, 12, 90 | 81.9 plus 10-91.9*** |
| State Univ. of Iowa | 6, 11, 07 | 78.1 |
| St. Bartholomews Hosp. Med. School, London | 12, —, 79 | 81.3 plus 15-96.3 |
| Tulane Univ., La | 5, 3, 05 | 81.9 |
| Univ. of Dublin, Ire. '77, & Coll. of Phys., London | 1, —, 01 | 82.7 plus 15-97.7 |
| Univ. of N. Y | 7, 16, 87 | 83.7 plus 10-93.7 |
| Univ. & Bellevue Hosp., Med. Coll., N. Y | 6, —, 09 | 86.4 |
| Univ. of Mich | 6, 27, 89 | 72.6 plus 10-82.6 |
| Univ. of Mich | 6, 27, 95 | 76.4 plus 5-81.4* |
| Univ. of Colo | 6, 3, 97 | 77.4 plus 5-82.4 |
| Univ. of Louisville, Ky | 3, 13, 93 | 77.7 plus 5-82.7* |
| Univ. of City of New York | 3, 24, 91 | 80.3 plus 5-85.3 |
| Univ. of Toronto, Can | —, —, 07 | 87.5 |
| Univ. of Vt | 7, 1, 08 | 80.0 |
| Vanderbilt Univ., Tenn | 5, 3, 09 | 75.0* |
| Vanderbilt Univ., Tenn | 5, 3, 09 | 84.5 |
| Western Penn. Med. Coll., Penn | 3, 22, 94 | 77.7 plus 5-82.7 |
| Western Reserve Univ., Ohio | 6, 13, 07 | 81.2 |
| Woman's Hosp. Med. Coll. of Chi., (N. W. Univ) Ill | 4, 1, 90 | 76.1 plus 10-86.1* |
| Yale Med. Coll., Conn | —, —, 04 | 88.9 |

Failed.

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|---|---|---|
| Cal. (Ecl.) Med. Coll., Cal | —, —, 05 | 71.8 |
| Coll. of P. & S., Los Angeles, Cal | 6, 6, 06 | 69.8* |
| Coll. of P. & S., S. F., Cal | 5, 19, 09 | 73.6 |
| Coll. of P. & S., S. F., Cal | 5, —, 03 | 69.0 |
| Cleveland Coll. of P. & S., O | 7, 4, 84 | 67.5 plus 10-77.5 |
| Drake Univ., Med. Dept., Iowa Coll. of P. & S., Iowa | 3, 18, 96 | 41.2 plus 5-46.2 |
| Hahnemann Med. Coll. of Hosp., Penn | 6, 2, 10 | 73.4 |
| Hospital Coll. of Med., Ky | 7, 1, 02 | 64.6 |
| Jefferson Med. Coll., Pa | 3, 29, 84 | 68.1 plus 10-78.1 |
| Kansas City Med. Coll., Mo | 3, —, 91 | 68.3 plus 5-73.3 |
| Rush Med. Coll., Ill | 5, 22, 95 | 66.0 plus 5-71.0* |
| Tokio Charity Med. Coll., Japan | 7, 31, 07 | 63.8* |
| Tulane Univ. of La | 5, 20, 08 | 62.1 |
| Univ. of Md. | 4, 18, 93 | 65.3 plus 5-70.3 |

Osteopathy—Passed.

| | | |
|---|---|---|
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 86.9 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 86.7 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 84.9 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 83.7 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 81.8 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 78.2 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 81.1 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 78.6 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 76.1 |
| Pac. Coll. of Osteopathy, Cal | 2, 3, 10 | 81.2 |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 79.8* |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 79.7** |
| Pac. Coll. of Osteopathy, Cal | 6, 23, 09 | 78.2* |

Osteopathy—Failed.

| | | |
|---|---|---|
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 72.6 |
| L. A. Coll. of Osteopathy, Cal | 1, 27, 10 | 71.0 |
| Pac. Coll. of Osteopathy, Cal | 2, 3, 10 | 69.7 |

* Taken before.

### New Lic entiates.

J. E. Adams, L. W. Ashcroft, E. Axtell, C. H. Bailey, J. F. Barbrick, C. L. Bennett, G. J. Bergener, T. L. Blanchard, Mary Breen, W. J. Broome, H. D. Buckmann, L. Belle Butcher, W. S. Byrne, W. T. Cade, Jr., E. M. Clark, R. H. Crist, A. B. Eadie, A. D. Ellsworth, J. A. Ferrin, C. D. Gaylord, S. C. Gearhart, I. C. Gobar, P. H. Goodwin, J. Gunville, S. L. Haas, C. S. Harris, E. J. Heisz, C. G. Hilliard, W. A. Hodkinson, A. Hostetter, A. P. Hughes, H. A. Huntoon, W. J. Hutchinson, H. W. Irwin, M. Jaynes, W. S. Keys, L. R. Kilgore, R. Kremer, A. M. Laughlin, L. L. Lindsey, H. A. Mager, E. F. Mahan, J. L. McCarthy, H. A. MacCauley, Lillian Moffat, C. B. Moore, J. L. Moore, E. H. Morrison, R. McW. O'Neal, P. F. Page, Jr., J. L. Pomeroy, Ogden Rafferty, Frank Rainie, E. J. Riche, A. T. Seymour, W. A. Shaw, D. W. Sheldon, Pearl Shrode, F. D. Simons, C. A. Skinner, B. R. Sprague, C. J. Stansby, C. C. Stephenson, O. P. Stowe, J. K. Suckow, A. Thibodeau, C. A. Tillotson, B. B. Ward, L. B. Weatherbee, F. T. Weed, H. M. Wegefarth, L. B. White, H. H. Yerington.

### DR. VON HOFFMANN'S STATEMENT.

In the April number of the California State Journal of Medicine there appeared an article entitled: "History of a Law Suit for Alleged Malpractice," in which my name was mentioned. I should like to state briefly my connection with the case.

Though I can not give the exact dates, my records having been destroyed in the fire of April, 1906, it was some time previous to the operation, that the patient came to me for examination. My diagnosis was fibroid of the uterus. After this time I did not see the patient, did not hear anything further, did not know even where the patient lived, until she came again to my office, after suit had been instituted. I examined her, the result of the examination being the same as on the previous occasion. I did not see her again. At this time her lawyer visited my office and endeavored to obtain information favorable to his client. His visits ceased, when he failed to secure more than the facts.

This covers my entire connection with the case outside of the court room, where I went only when subponaed.

Misunderstandings and misinformations can give an entirely different aspect to the case.

(Signed) Dr. VON HOFFMANN.

### NEW MEMBERS.

**Gilbert, E. C.**, Santn Barbara.
**Hamilton, G. V. T.**, Santa Barbara.
**Park, C. C.**, Santa Barbara.
**Laist, O.**, San Francisco.
**Pulsifer, L. M.**, Napa.
**Elosser, L.**, San Francisco.
**Greene, J.**, San Francisco.
**Moore, H. S.**, San Francisco.
**Beardslee, A.**, San Francisco.
**Simon, M. E.**, San Francisco.
**Harder, W. G.**, San Francisco.
**Tobriner, O.**, San Francisco.
**Miller, T. S.**, San Francisco.
**McNary, T. W.**, San Jose.
**Wallace, Carl T.**, Eureka.
**Hays, W. B.**, Sonoma.
**Schmelz, E. J.**, Eaglenest.
**Lumsden, A. G.**, Petaluma.

### Deaths.

**Barbat, Wm. F.**, San Francisco.
Stratton, E. G., Oakland.
Madill, David, Oakland.

| Counties. | President. | Secretary. | Meets. |
|---|---|---|---|
| Alameda County Medical Association | Chas. A. Dukes, Oakland | Pauline Nusbaumer, —— | 3d Tuesday, 127 Telegraph Ave., Oakland |
| Butte County Medical Society | E. A. Kusel, Oroville | Ella F. Gatchell, Chico | 2d Tuesday |
| Contra Costa County Medical Society | C. R. Leech, Walnut Creek | F. Rattan, Martinez | 1st Monday every other month |
| Fresno County Medical Society | C. P. Kjaerbye, Fresno | L. R. Willson, Fresno | 1st Tuesday |
| Humboldt County Medical Society | C. W. Mills, Arcata | E. V. Falk, Eureka | 2d Tuesday |
| Imperial County Medical Society | J. V. McCombs, El Centro | J. L. Cook, Brawley | ? ? ? |
| Kern County Medical Society | S. F. Smith, Bakersfield | W. S. Fowler, Bakersfield | 3d Monday |
| Los Angeles County Medical Society | W. W. Richardson, Los Angeles | Geo. H. Kress, Los Angeles | Friday, except July, Aug. & Sept. |
| Marin County Medical Society | F. J. Hund, Ross Station | H. O. Howitt, San Rafael | Every Thursday |
| Mendocino County Medical Society | E. E. Allen, Talmage | L. K. Van Allen, Ukiah | Meets quarterly |
| Merced County Medical Society | E. S. O'Brien, Merced | L. H. Woolsen, Merced | 1st Thursday |
| Monterey County Medical Society | T. C. Edwards, Salinas | H. T. Crabtree, Salinas | 1st Saturday |
| Napa County Medical Society | F. C. Newton, St. Helena | O. T. Schultze, Napa | 1st Tuesday |
| Orange County Medical Association | J. L. Beebe, Anaheim | Ida B. Parker, Orange | 1st Tuesday |
| Placer County Medical Society | J. G. Mackay, Truckee | G. H. Fay, East Auburn | 1st Saturday every 2d month |
| Riverside County Medical Society | A. W. Walker, Riverside | G. E. Tucker, Riverside | 2d Monday |
| Sacramento Society for Medical Improvement | G. W. Dufficy, Sacramento | Chas. McKee, Sacramento | 3d Tuesday |
| San Benito County Medical Society | L. C. Hull, Hollister | F. O. Nash, Hollister | 1st Monday |
| San Bernardino Medical Association | W. P. Burke, Highland | G. G. Moseley, Redlands | 2d Tuesday |
| San Diego County Medical Society | R. E. Austin , San Diego | H. A. Thompson, San Diego | 1st Friday |
| San Francisco County Medical Society | Langley Porter, San Francisco | Rene Bine, San Francisco | 2d Tuesday |
| San Joaquin County Medical Society | J. P. Hull, Stockton | B. F. Walker, San Joaquin | 4th Friday, except July and August |
| San Luis Obispo County Medical Society | H. M. Cox, San Luis Obispo | R. M. Bradbury, San Luis Obispo | ? ? ? |
| San Mateo County Medical Society | J. L. Ross, Redwood City | F. M. Seibert, San Mateo | 1st Monday every 2d month |
| Santa Barbara County Medical Ass'n | D. A. Conrad, Santa Barbara | T. A. Stoddard, Santa Barbara | 2d Monday |
| Santa Clara County Medical Society | E. R. Wagner, San Jose | J. J. Kocher, San Jose | 3d Wednesday |
| Santa Cruz County Medical Society | S. T. Pope, Watsonville | E. E. Porter, Watsonville | 1st Monday |
| Shasta County Medical Society | S. T. White, Redding | B. F. Saylor, Redding | Meets quarterly |
| Solano County Medical Society | C. E. Turner, Big Pine, Cal. | J. J. Hogan, Vallejo | 3d Wednesday |
| Sonoma County Medical Society | S. Z. Peoples, Petaluma | Jackson Temple, Santa Rosa | 1st Friday |
| Stanislaus County Medical Society | W. J. Wilhite, Modesto | B. F. Surryhne, Modesto | 2d Tuesday at Modesto |
| Tehama County Medical Society | J. A. Owen, Red Bluff | F. L. Doane, Red Bluff | ? ? ? |
| Tuolumne County Medical Society | E. E. Wilson, Greenville | C. F. English, Sonora | ? ? ? |
| Ventura County Medical Society | J. C. Bynum, Ventura | P. S. Van Patten, Nordhoff | 1st Monday |
| Yolo County Society for Medical Improvement | T. W. Gallion, Davisville | Frances L. Newton, Woodland | 1st Tuesday, except July, Aug., Sept. |
| Yuba-Sutter Counties Medical Society | J. H. Barr, Marysville | G. W. Stratton, Marysville | Meets quarterly |

N. B.—Secretaries will please notify Journal office of any changes taking place in their respective county.

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## EDITORIAL NOTES.

**CANDOR WITH TUBERCULOSIS PATIENTS.**

The great strides in prophylactic medicine that have been made during the last fifty years have been brought about largely in two ways; primarily by the enormous amount of research that has revealed many of the etiological factors of disease, and secondarily, by measures tending to educate the public both in avoiding exposure and in combating diseased processes.

The old era of medical omnipotence when the doctor entered the sick room as Lord, King, and master, only too often, unfortunately, masking his ignorance by an impenetrable atmosphere of mystery, is a thing of the past, and now we are living in an age when the laity not only desires knowledge but demands it. Granting this, are we as physicians justified in masking our diagnosis of incipient tuberculosis? Most emphatically no! There is not one of us but who in his practice has on numerous occasions had the unpleasant duty of telling some poor unfortunate that he or she was the victim of tuberculosis. It would be well, if in reviewing this group of cases, we recalled to our minds whether or not we have always been frank with our patients. How many times have we in an effort to spare the feelings of our patient, said, that he had a chronic bronchitis, or was suffering from slight lung trouble. It is more than regrettable that this is only too often the case.

Were anything to be gained by this very non-humanitarian procedure, perhaps it might sometimes be excused, but since it is a method only conducive to harm and destruction it cannot be too vehemently deprecated. Were tuberculosis like inoperable carcinoma, an absolutely hopeless condition, then we would be justified in concealing our diagnosis, but it is curable and the best way to cure it is to have the patient's assistance. This is never possible when he does not realize the condition from which he is suffering. Ignorance alone is responsible for the terrible dread that most people have of consumption. Their knowledge of the numerous cases that succumb terrifies them, and it is ostensibly our fault as their medical advisers. No effort should be spared in impressing upon the minds of our patients that whereas two-thirds of all persons have, some time in their lives tubercular infections, as shown by autopsy records in those countries where all people are autopsied, only one-seventh of all deaths are due to the white plague.

Furthermore our duty to our patient is not the only stern reason why we should be candid in our attitude toward him. We have the welfare of his children, wife, sisters, and brothers, to take into consideration, and their neglect puts us in the actual classification of the criminal. How often in a home, where tuberculosis has been lurking for months, do we see a poor unfortunate child apparently in the best of health succumb to a terminal meningitis, when the body is fairly riddled with tubercles, and it is always the same old story. The father or mother, or uncle or aunt, has a chronic cough which the doctor has said was not tuberculosis.

Be honest with your patient! If he is tubercular pronounce him tubercular and show him how he can be cured, and how he can spare others. We speak of educating the public. Unfortunately, it is our own education that is too often lacking. What we call tact and discretion in sparing the tubercular patient's feelings, are in fact injustice and crime, and the sooner we adopt absolute candor in dealing with our cases, so much sooner will the ravages of tuberculosis diminish.

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**MEDICAL DEFENSE.**

The JOURNAL has repeatedly printed notices about the medical defense plan of the State Society, but still there are many who do not seem to understand it entirely. On another page we reprint a circular that was sent to all members in July, 1909; this circular letter was carefully prepared by our attorney and gives the exact rules and requirements of the plan adopted by the Council and unanimously endorsed by the House of Delegates at the meeting in April, 1910, at Sacramento. This is merely a mutual benefit undertaking of all the members of the Society, agreed to unanimously by their representatives in the House of Delegates. No contract for insurance is issued; it is not insurance; it is the protection of the whole Society extended to any member who may be sued for malpractice. The members have agreed to defend themselves; they have agreed that all suits shall be defended and that the cost of doing the work shall be prorated or divided among all the members. As it is not known exactly what this cost will be, but as the experience of other states has shown that the work can be done for a small sum per member, it was decided to make an additional assessment of

$1.00 per member for this work and then decrease it in another year or two if it was found to be unnecessarily large. You should read the circular carefully and know exactly what to do in case a suit is threatened or filed against you. If you delay or do not comply with the very simple rules adopted, then you have no one but yourself to blame if the Society can not defend the suit for you. A few members will probably think to themselves that the imposition of this additional dollar is a hardship upon them, for they have never been sued for malpractice and never expect to be; but "Who knoweth the day or the hour," to quote somewhat incorrectly. No one practicing medicine of any sort can say that he will not be sued for alleged malpractice some time. The Editor never expected to be sued for malpractice when he began making X-ray examinations some years ago; and yet he was the first person in the United States to be sued for causing an X-ray burn. You never can tell; and protection at the rate of one dollar a year is pretty cheap.

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**WHOSE MONEY?**

The effort of the American Medical Association and of the Committee of One Hundred to secure a Bureau or a Department of Public Health, in order that the people of the United States might receive at least a fraction of the attention that our hogs and our cattle now receive, has resulted in some very curious things. A number of bills were introduced into the present Congress, one of them by Senator Owen which called for the creation of a Department of Public Health with a cabinet officer at its head. One would think, upon reflection, that if agriculture is sufficiently important to need a cabinet officer and a whole department to look after it—and incidentally to send out tons of gratuitous seeds—that the health of the people might be of sufficient interest and importance to call for at least a Bureau for its guarding. But it seems not. Hogs are vastly more important than human beings, for you can sell the hogs; if they get cholera it means a money loss; if humans get it, they just die. Quite recently a most active and aggressive campaign has been organized to oppose the passage of the Owen bill or any other bill to improve the safeguarding of the public health. There was a good deal of opposition to the pure food and drugs act, but it was nothing to the brazen openness of the present attack upon the Owen bill, upon the American Medical Association, upon the Committee of One Hundred and in general upon each and every, all and sundry who are working for Federal control of public health. A very large amount of money is being spent in fighting this movement. It costs a heap to put quarter page advertisements in all the papers—or a great many of the leading ones—of the country. And it costs a lot to hire high priced writers to prepare advertisements and to run subsidized "news agencies" for working the papers to print carefully prepared stories, published as news matter, that will deceive the people. And yet this is exactly what is being done. In the latter part of May the papers of the country were flooded with "news items" anent the Owen bill and what awful things it would do to the liberties of the people. Moreover, advertisements were printed in a great many papers, the Los Angeles *Times* and the San Francisco *Chronicle* among them, calling for support of the "National League for Medical Freedom." "No fee required. Just sign and mail this coupon." Now, all this costs money.

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**"MEDICAL FREEDOM."**

Why this "National League for Medical Freedom"? What threatens "medical freedom"? Why should all and sundry be requested to be in sympathy with the movement for "medical freedom" and so opposed to Federal control of public health? Why should members of this "league" for "medical freedom" be enrolled free? How can the "league" conduct its campaign against public health and spend the money it is spending when membership in it is "free"? These are puzzling questions. How can they do it? Someone must pay for those quarter-page advertisements. Someone is paying for that news bureau in New York which is so carefully preparing tainted news for the more than supine press. Someone is paying for whole page reprints of articles in the New York *Herald* which are mailed broadcast about the country. All this costs money; membership in the "league" is free, so revenue cannot be derived from that source. Who is putting up the money? A great many thousands of dollars have been spent already and the spending keeps up; it will doubtless keep up till the bill is passed, defeated or Congress adjourns. To whose interest is it to defeat a measure of this kind? Careful scrutiny of the situation indicates two sources of interest that might profitably oppose such legislation which is only for the public good; for the protection of those who do not know enough to protect themselves. The Owen bill gives pretty wide authority and large powers to the Department of Public Health; it also puts the work of the Pure Food and Drugs Act in that Department and would doubtless increase the authority of those administering that law. It might therefore still further inhibit the pernicious activity of dishonest food and drug manufacturers. And also there is another large class that might find its energetic abilities for doing harm sadly interfered with at times; the "eddyite" would not be allowed to permit epidemics of diphtheria or smallpox to develop while a few early cases were being treated by prayer. Now, the "eddyite" foundry is a veritable gold mine, as anyone knows who has seen the millions of dollars piled up in Boston. Also, many of the food and drug manufacturers and that organization of the latter class which represents those most inclined to secrecy, the Proprietary Association of America, have lots of money to spend to enact or defeat legislation that they like or that they think is going to interfere with their unrighteous gains. We have seen this Association spending its money very freely before, for similar high-minded purposes. Whether either or both of these classes is putting up the money now being spent like water to defeat the Owen bill, we do not know. But two things are certain. There is being spent a lot of money with the object of fooling the people

and stirring up opposition. And secondly, someone directly interested is putting up the money. Look for the interested party, and "when found make a note on it."

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**PREVALENCE OF DISCONTENT.**

In a hearing before a Senate Committee which discussed the Owen bill it was stated by a representative of the "National League for Medical Freedom" that said "league" had 50,000 members and that they expected to have 100,000 in a few days—and no fees charged. Quite interesting. It was also intimated that the "eddyites" were strongly opposed to the bill and that the patent medicine fraternity were likewise opposed. Quite a coincidence, is it not? But it is so easy to get a lot of people to object to anything—if it costs them nothing. The world is full of the discontented; it is easy to get them together "agin" anything that means progress. And also, sometimes, it happens that men of intelligence will be a bit crazy on some particular subject and will allow their brains and their energy to be diverted toward the opposition of something that is really good and desirable. For example, the way New York *Life* is opposing animal experimentation and can not see the thousands of lives that have been saved at the cost of a few dogs and guinea pigs. There are people who are "agin" everything and anything that is established; doubtless there are those who violently oppose the arbitrary naming of white and black and who would like to transpose the names. But who is to distinguish? Who is to say what is the *quality* of any opposition? Here are 100,000 people who oppose a certain thing. Probably not 100 of them know just what or why they are opposing it; they just know that someone has said it ought to be opposed and so they feel terribly injured and they go ahead and oppose. It is a queer people, truly; and those 100,000 *objectors* will carry as much weight, with a majority of men as would a similar number of *supporters* of the caliber of Welch or Fischer.

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**A. M. A. MEETING IN LOS ANGELES.**

As the JOURNAL goes to press, word has been received that the meeting of the American Medical Association will be held next year in Los Angeles. The last time that this Association met in California was in San Francisco in 1894 when Dr. Beverly Cole, of San Francisco, was elected President. In thus recognizing the Pacific Coast profession an added impetus will be given to medicine in this section of the country, which has in many particulars already been conspicuous by its enterprise and progress.

Dr. Bert Ellis, of Los Angeles, was made chairman of the Committee of Arrangements.

## ORIGINAL ARTICLES

### SYMPOSIUM ON THORACIC SURGERY.

Fortieth Annual Meeting of the Medical Society of the State of California, Sacramento, April 21, 1910.

### SURGERY OF THE LUNGS.

By ANDREW STEWART LOBINGIER, A. B., M. D., Los Angeles.

The brilliant achievements in modern experimental surgery have within a few years made possible procedures within the thorax which the earnest efforts of a generation of enthusiastic workers had previously failed to accomplish. As in the evolution of every field of surgery, this latest has not been without its grotesque errors. These are easily forgotten, however, in the confidence and security one may have in our present knowledge of respiratory balance.

It is seven years since Mikulicz and Sauerbruch at Breslau, and Brauer and Petersen at Heidelberg, conducted carefully planned experiments to establish a definite respiratory equilibrium. From the beginning the subject of differential pressure has been consistently recognized as the fundamental principle upon which intra-thoracic surgery would be possible. We have seen the evolution of this idea wrought out by Friedrich, Sauerbruch and Meyer with negative pressure, and by Brauer, Robinson, Volhard, Mayer, Kuhn, Sollman, Tiegel, Meltzer and Auer with the positive pressure principle.

There has been a distinct effort toward simplifying and rendering more practicable the apparatus which shall most safely and efficiently establish aeration of the blood, with absence of pneumothorax. The elaborate cabinets of Sauerbruch and Brauer abroad, and of Meyer, Robinson, Green and Janeway in this country, have not met with general favor. These men insist that the simpler methods of intratrachial insufflation, such as have been used by Volhard, Kuhn and Meltzer, are not sufficiently dependable for practical clinical use. Recent reports from Elsberg and Lilienthal, however, using the Meltzer-Auer apparatus at Mt. Sinai Hospital, would seem to quite establish its applicability to human surgery.

Surgeons have hitherto been compelled to predicate every consideration of operative interference in the thorax, upon the solution of the problem of differential pressure. We have furthermore in the study of the surgical pathology of this region, been obliged to content ourselves largely with the pathologic appearances *post mortem*, and been seldom permitted to observe the pathology of the living body. This has retarded no little our interpretation of operable conditions—a subject which lies before us, to a large extent *terra incognito*. Even with the flattering promises which recent reports of experimental surgery of the thorax offer us, it must not be forgotten that they are founded on healthy animals whose vitality has not been decimated by disease and whose organs are normal in conformation, correctly in place and have never been impaired or embarrassed in function by destructive inflammatory change.

I should be derelict in the duty delegated to me in discussing the surgery of the lungs, were empha-

sis not directed to many of the fundamental difficulties which we are destined to encounter in this field. As in the pathology of intra-cranial lesions, unless we shall see these patients before extensive growths or specific deposits have invaded the lung or mediastinum, little will avail of efforts to restore the organs to normal conditions by operative measures. Tumors lying in the mediastinum or primary carcinoma of the lung; operable tuberculous deposits wherever situated, either in lung tissue or bronchial glands; atalectasis and even bronchiectatic accumulations, must all be seen as early as possible before extensive destructive change has occurred in the lung tissue or before important neoplastic and adhesive involvement of the vessels and ganglia result near the hilum,—if surgical interference is to accomplish anything worth while. Most of all do we need to remember that lung tissue is fragile and perishable and that the technic of all intra-thoracic procedure should be faultless. We should be reminded here that the experimental work of Robinson and others on dogs has shown in pneumectomy a tendency of the pleura to pour out a very extensive exudate, which unless a well gauged costal resection is immediately done, will result fatally. The exudate may not only destroy life from a speedy and lethal infection, but it acts mechanically in displacing the heart and vessels in a way which is as fatal as an unrelieved acute gastric dilatation.

Thus far operative measures directed to the lungs have been confined chiefly to pulmonary abscess, gangrene and neoplasms. Pneumectomies which have been done for tuberculosis have not proved very satisfactory. For in lungs where sufficient invasion to justify interference has occurred, the destruction has extended after excision and the process has not been materially stayed. Patients with incipient pulmonary infection are diffident about submitting to operation.

Biondi, Glück and Schmidt carried out elaborate series of experimental pneumectomies looking to excision of tuberculous areas in the human subject. But the work in this field by Tuffier, Lowson, Doyen and Sonnenberg has been so disappointing that we may well share their pessimism. They learned that tuberculosis of the lung could not be arrested in its progress by operation as it could in other tissues. We are not now prepared therefore to entertain the optimistic views held concerning the surgery of the tuberculous lung at the beginning of these clinical studies.

Some of the difficulties in this infection have been manifest from the beginning; others are more obvious in the present light of our knowledge and experience. The lung is at once a delicate and mobile tissue. In tuberculosis, nature seeks to immobilize it. This process results in the destructive adhesions from proliferative inflammation. To interfere surgically is to break down all the barriers to the dissemination of the specific infection which nature has established and at the same time to signally fail in compassing all the foci of infection. From the infected areas left behind repair is feeble and maybe *nil;* and worst of all the dissemination of the infection seems to be rekindled with especial energy. We have long recognized that tubercular processes were arrested by putting the organ or member affected in repose. Murphy had this principle well in mind in his nitrogen gas injections into the pleural cavity. Friedrich has only recently paid a tribute to this distinguished American surgeon for daring to thus boldly and ingeniously apply this accepted law. It has been only one of many original and brilliant contributions to modern surgery from his gifted mind. We know now that such measures as will most certainly and speedily arrest tuberculous deposits in the lung are to be commended in the treatment of this organ, and pneumectomy, either by knife or by the cautery, has not been attended by sufficient success to commend it to our favor.

A more hopeful view is presented in pulmonary abscess—especially of the single or confluent bronchiectatic type. This condition may be treated by costal resection or by thoracotomy and drainage. Adhesions may be established if a thoracotomy be sellected which may enable the surgeon to disregard the precautionary safeguards of differential pressure. It is not wise, however, to rest in the hope that adhesions between the organic and costal pleura have become firmly established. Many of these patients are greatly enfeebled by the long and depleting sepsis; and with the knowledge and intelligence now at our command a differential pressure apparatus should invariably be provided.

In the surgical treatment of *Emphysema vesicula* distinct benefit has been derived from resection of four or five ribs including the costal cortex. Unless this periosteal covering is carefully dissected out the thoracic wall will speedily regain its rigidity and the lung again become overdistended. Firm pressure should be applied over the resected area in order to favor collapse of the chest wall and obliteration and rest of the confluent vesicles.

I have had no personal experience with echinococcus cyst of the lung but it should be, and clinical reports have shown it to be, as amenable to surgical treatment as in its invasion of the liver. Not a few cases reported have been associated with echinococcus of the liver.

I have had one case of ray fungus of the lung. The anamnesis showed the infection to have started in the right tube and ovary and to have extended to the right kidney, to the liver, gall bladder, pancreas and the lower lobe of the right lung. The lung was invaded several weeks before dissolution and at no time during the year's illness was the progress of the disease arrested in the slightest degree by any of the various surgical measures which were employed. It was obvious that nothing could be accomplished by a pneumectomy, where so extensive involvement of other organs existed. Medical measures employed by consulting physicians proved equally fruitless in this case. I am of the opinion that advanced and widely disseminated infection from actinomycosis, whether in the lung, liver or kidney, is incurable. Many so-called cases of "actinomycosis cured" have crept into the literature and been reported in our societies, which would have been excluded had a competent pathologist been called to pass upon the "rays."

The invasion of the mediastinum, the lung or the thoracic wall with carcinoma and sarcoma will have

added surgical interest to us now that pneumothorax need no longer be dreaded. It is true that mediastinal tumors have been removed without invading the pleural cavity, but they were situated well anterior and were not extensively infiltrating. Krause, Garrè and Heidenhain have removed portions of the lobes of the lung invaded by new growths. They urge early diagnosis and radical resection. In the eight or ten cases which have come under my observation not a single patient was seen early enough to have justified the slightest hope of more than temporary benefit from operation. Until we shall be permitted to explore the chest when the radiogram, together with clinical signs, reveals a growth within, we shall still continue to do autopsies on patients who were at one time in the course of the disease just as operable as are those with early pyloric cancer. Radiography has contributed more to the intelligent interpretation of lesions in the thorax than within the abdomen; and the X-ray by fluoroscope or plate, will continue to be an invaluable adjunct in determining what shall be done in the surgery of the thoracic organs.

It is too soon to measure with any degree of precision the various technical methods employed in the surgery of the lung. These must remain largely a matter of personal equation. All must agree with Friedrich that nowhere, not even in the work on the brain, is such strict asepsis required. The simple intercostal incision is preferred except where gangrene or an extensive neoplasm will require an osteoplastic resection for wider vision.

In pneumectomy the care of severed bronchus stump is vital and the technic of Meyer, i. e. crushing the bronchus and inverting as in appendectomy, will avert a fatal tension pneumothorax. Where any extent of lung tissue has been removed, it is best, as shown by Robinson, to resect four or five ribs to ensure compensatory collapse of the thoracic wall. This surgeon found that if too small a number of ribs were resected a fatal accumulation of fluid would result. In the total excision of a lobe the line of approach to the hilum and the important vagus plexuses, has been clearly defined by Friedrich. Lenhartz has advocated operation in two stages; but improved differential apparatus will make such a precaution in technic unnecessary. Greatest care should be taken to inflate the lung as fully as possible before the thorax is closed. In partial lobe excision this can only be employed with the portion of the lung still remaining. Even greater care must be exercised in making a perfect air-tight closure of the thoracic wall. Extensive adhesions must be broken up with the utmost gentleness, and bleeding points should be ligated wherever possible.

The daring efforts of Trendelenberg at his Leipsic clinic in three cases of thrombosis of the pulmonary artery are illustrations of the possibility in spectacular lung surgery. Few surgeons are capable of clearing out a thrombosed artery deep in the thorax in fifteen minutes, the limit Trendelenberg allows for this procedure. One is reminded here of Carrel's self-reproach for failure to do an anastamosis of a cold storage segment of the jugular, between the descending aorta and the coronary artery, in less than five minutes. He naïvely tells us that unless he can do it in three minutes there is no hope for the dog. Fortunately the perfecting of differential pressure apparatus permits the surgeon to be deliberate and thorough in his work on the lung and in due time this great principle will place the surgery of the thorax on as secure a footing as intra-abdominal surgery occupies to-day.

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## DIFFERENTIAL PRESSURE.

By DUDLEY TAIT, San Francisco.

Differential pressure is to thoracic surgery what asepsis is to surgery of the abdomen. Bacteriology blazed the way for the latter; physiology made the former possible. Some may continue to procrastinate, mechanically trained surgeons may refuse to discard their crude procedures of Hippocratic origin; they can neither retard the triumphal advance of physiological methods into the domain of surgery of the chest nor attenuate in any sense the need, the importance and the farreaching results of said invasion.

Prior to the present physiologic era, the record of thoracic surgery, compared with that of other regions, was one of lamentable, blind flounderings. The explanation is simple: surgeons knew not how to deal with the pneumothorax resulting from the opening of the pleural cavity; they were unable to maintain the normal difference in pressure which exists between the pleura and the interior of the lung. Pneumothorax was thus the great barrier that retarded the dawn of a rational thoracic surgery.

Normally, the lungs, distended by atmospheric pressure (760 mm.) from within, are in a state of elastic tension. If, however, an opening be made in the pleura sufficient to admit air, the pressure of air within and without the lung immediately counterbalances and the elastic tissue at once recoils. Hence collapse of the lung. In order to prevent collapse or retraction of the lung, all that is necessary is to establish between the interior and the exterior of the lung a constant difference of pressure equal to the pulmonary retractility, i. e., from 7 to 8 mm. of mercury. This may be done by the use of either positive pressure within the lung or negative pressure without.

Seven mm. of mercury corresponds to an altitude difference of about 250 feet. In mounting or descending in the elevator of any tall modern building, we are, within the space of a few moments, experiencing pressure differences greater than those used by either plus or minus methods in surgery of the chest. Furthermore, as Willy Meyer remarked, we must remember that the daily variations in the barometric pressure may be more than

50 mm. of mercury, i. e., many times the amount demanded of any pressure differential apparatus to prevent collapse of the lung.

A mere reference and a word of caution will suffice in regard to the antiquated laboratory method of pulmonary inflation. There is no more certain mode of killing an animal than by excessive intrapulmonary pressure. [1]

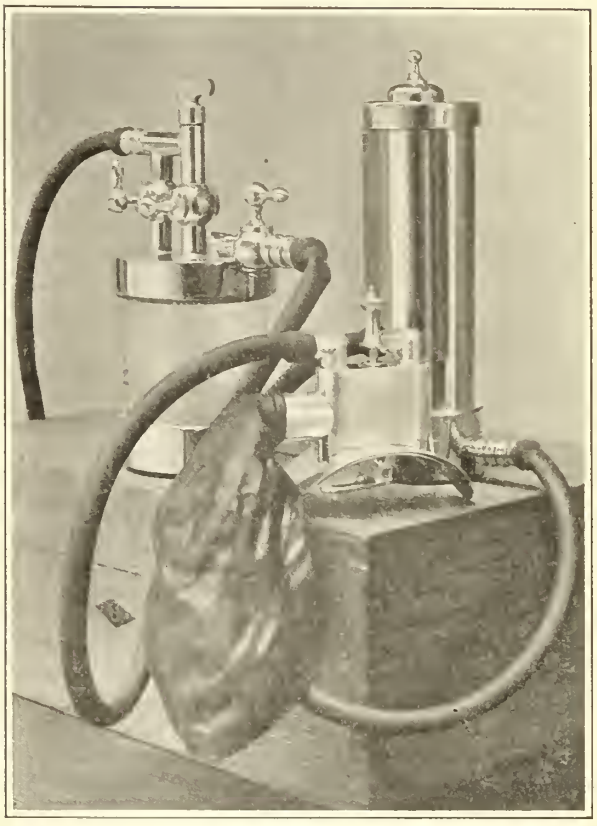
The utilization of the two fundamental principles for the elimination of the effects of an open pneumothorax has given rise to a great many different types of apparatus, especially of the positive or overpressure principle.

The positive pressure apparatus may be divided into two distinct groups. First, the Brauer box type, which leaves the mouth free and accessible at all stages of the operation. Engelken, Mayer, Murphy, Vidal, Karewski, Green, Janeway and Robinson have each presented an apparatus of this type. Second, the mask type, comprising the Tigel, Kuhn, Danis-Mayer, Brat-Schmieden, Flint and Bunnel apparatus. There is also the Willy Meyer combined differential chamber which consists of a positive pressure cabinet resembling Engelken's, within a large negative pressure cabinet similar to Sauerbruch's chamber. With this apparatus either positive or negative pressure or a combination of the two, may be used.

In 1904 Sauerbruch presented his now famous Breslau cabinet, the description of which is well known to all. Sauerbruch's cabinet can be used for either positive or negative pressure. For negative pressure the patient's head is placed outside of the cabinet and the body inside; for positive pressure, the patient's position is reversed. No one has succeeded in perfecting this cumbersome, complicated, expensive and never-ready apparatus, specimens of which are to-day lying idle in numerous German, French, Belgian and Italian clinics.

The extensive and careful work of Dreyer, Meyer and Seidel have shown conclusively that there is practically no difference between the physiological effects of the elimination of an operative pneumothorax by the positive and negative differential methods. Further corroboration of this fact was furnished by Friedrich who operated, with the same degree of success, an equal number of patients under positive and negative pressure. Total pneumectomy in the dog is considered by all experimenters to be the supreme test of pressure apparatus. Willy Meyer, Sauerbruch and Robinson concluded that total pneumectomy in the dog could be done with comparative safety under negative pressure, whereas all experimenters admitted at least 90% mortality under positive pressure. Last June, this apparent superiority of negative pressure was, however, entirely offset by Flint, who reported numerous total pneumectomies in dogs under positive pressure and very properly called attention to several previously neglected points of technic.

In the present sketchy communication the writer desires to call attention to first, a simple apparatus which has been successfully used in several intrathoracic operations in man, and secondly, an extremely valuable method for animal experimentation.

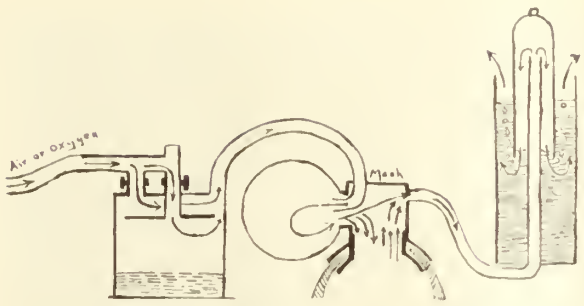


The Danis-Mayer Apparatus

*The Danis-Mayer Apparatus.* The Danis-Mayer apparatus is composed of three parts. 1st, the anesthetic chamber or Wolf's bottle, which is connected, by means of rubber tubing, at one end with the oxygen tank or source of air supply and at the other end with an intra-buccal mask, one part of which is placed inside the lips, the other outside the lips,—the two parts being approximated by means of a central screw which thus hermetically closes the mouth. The nose is closed by means of a clamp. The exit aperture of the mask is connected with a glass jar containing a central hollow tube over which fits tightly a metallic cylinder. The air or gas passes from the bottom to the top of the central tube and in order to escape must pass under more or less water. The resistance or pressure may thus be regulated by raising or lowering the cylinder surrounding the central tube.

Prior to opening the chest, the pressure cylinder is left off. When the chest is opened and the lung begins to collapse, the cylinder is slipped on the central tube and gradually pushed down until the lung has become distended to the desired degree. From now on no further manipulation of the cylinder is necessary; direct inspection of the lung becomes the best manometric indicator. A small rubber bag is attached to the mask as a provision for vomiting.

With the Danis-Mayer apparatus, the maximum pressure varies from 9 to 10 mm. of mercury. As an additional precaution against overpressure, a thin rubber bag is interpolated proximal to the intra-buccal mask.




Cross Section of the Danis-Mayer Apparatus

This apparatus may be used with ether, chloroform or gas and oxygen. The writer has adapted it to animal experimentation by slightly modifying the mask. The apparatus has been used in five human cases as follows:

1. Metastatic mediastinal carcinoma requiring wide excision of the chest wall and partial pneumectomy. (Lambotte.)
2. Exploratory thoracotomy for aortic aneurism. (Van Engelen.)
3. Pyothorax. (M. L. Mayer.)
4. Successful removal of recurring sarcoma of chest wall involving the diaphragm. (Lambotte.)
5. Friedrich's transverse sterno-thoracotomy, opening freely both pleural cavities. (Lambotte.)

The question of vomiting has been cited by many as a serious objection to the use of masks for differential pressure in the human. This objection is completely offset by the following facts: vomiting does not seem to occur under positive pressure. None of Kuttner's patients vomited. Dreyer's experiments tend to show that positive pressure prevents vomiting. The effect of morphin on dogs is known to everyone. Dreyer placed three dogs under positive pressure after a hearty meal and injected 0.04 of morphin; none of the dogs vomited then or afterwards. A week later, the dogs were given a similar dose of morphin, in the absence of positive pressure, when they promptly vomited. There is not a single record of vomiting in the twenty-four intra thoracic explorations, pneumectomies, pericardotomies, etc., done at the Research Department, University of California.

Furthermore, in case of threatened vomiting while the chest is open, the mask may be removed for an instant or two without causing any ill effects. We may, therefore, conclude that the danger from vomiting, under positive pressure, is minimal.

*Meltzer and Auer's Method of Pulmonary Ventilation.* Until very recently it was commonly believed that the two rhythmically antagonistic movements were inseparable from the function of respiration, one movement carrying air into the body, the other movement, through the elastic forces of the body, assisting its removal. In June, 1909, Meltzer and Auer, while experimenting with the Brauer method of overpressure, discovered that under certain conditions respiration can be carried on by continuous inflation of the lungs without any normal or artificial rhythmical respiratory movements whatever. [2]

These experimenters found that when a tube is introduced into the trachea, filling about two-thirds of its lumen and reaching down to the bifurcation, a continuous stream of air, under a pressure of 10 to 12 mm. of mercury will keep up the life of even a completely curarized animal.

In non-curarized animals, however, voluntary respiratory movements persist, being reduced to six or eight per minute. Complete apnoea may be produced by increasing the pressure to 20 or 25 mm.

The most serious objection to the original Meltzer and Auer method was the necessity of having an exact proportion between the diameter of the tube and the lumen of the trachea. It was, therefore, often impossible to choose prior to the experiment the proper sized tube. With too large a tube the experiment was merely a repetition of the Vesalius pulmonary inflation, while too small a tube would not provide sufficient air. At times the cyanotic color of the lungs and the condition of the heart plainly indicated danger from asphyxia. Meltzer and Auer found that by interrupting the air stream for a second or two all danger is averted, the cyanotic lung collapses moderately and then immediately becomes pink again as it distends. "This momentary collapse and distension assists greatly in the exchange of gases within the bronchi and alveoli."

In cases of open pneumothorax the spontaneous respirations of the animal have the same effect as the artificial interruptions just described. It is safer, as originally stated by Meltzer and Auer, to utilize both resources to insure the continuance and efficiency of the pulmonary ventilation under all circumstances. The foregoing discovery led Meltzer and Auer to abandon the tracheal incision and to adopt the more practical laryngeal route. The reason for the constant failure experienced by the numerous investigators, from Lambotte 1898 to Robinson 1908, who had used intra tracheal insufflation, is now quite evident.

*Description of the Meltzer and Auer Method.* The animal having been well anesthetized, a long catheter (3 to 8 mm. in diameter) with a terminal opening and mandril is introduced through the larynx and pushed down the trachea until it meets an obstacle. The lower end is usually then deep in the right bronchus. It is then withdrawn 4 or 5 cm., which brings the lower end of the catheter at about the level of the bifurcation. [3]

The outer end of the catheter is then made secure and joined with a T tube, one end of which connects with a manometer, the other end with a Wolf's bottle for ether. Interpolated on the rubber tube connecting the ether bottle with the pressure bottle is a T tube by means of which the air stream may be interrupted and a cotton filter provided for. "The essential point of the arrangement is that air enters the trachea and reaches the bifurcation under unusual pressure and velocity, returns through the space between the tracheal wall and the tube, and escapes through the mouth and nose." To distend the lungs prior to closing the chest the pressure may be increased at the bellows or the exit stream of air interrupted by clutching the animal's throat an instant.

Meltzer and Auer's method is apparently a type of positive pressure apparatus. It differs from its predecessors, especially of the Brauer type, in the

following essential points: (1) The fresh air reaches the lowest part of the trachea. (2) The air under pressure is in continuous motion within the lungs and not under stationary pressure. (3) The air escapes by another path than the one it enters. (4) Provision is made for a strong centrifugal air current within the trachea. (5) Respiration is markedly inhibited; the respiratory cycle is modified, the expiration being apparently greatly prolonged. (6) The lungs are in an almost constant state of partial distension.

*Superiority of the Meltzer and Auer Method over all other Methods in Animal Experimentation.* No one can deny the advantage of having the lungs motionless in doing any operation on the lungs, heart or great vessels. This has been brilliantly demonstrated by Carrel, who, with the use of the Meltzer and Auer method, recently opened up a new field in the operative treatment of thoracic aneurism and valvular lesions of the heart.

Perfect asepsis, which is far more difficult to carry out in thoracic surgery in the dog than in man, is greatly facilitated by the intra tracheal method of insufflation.

The amount of ether is remarkably reduced. At the Research Department, University of California, cats have been operated with less than half of the usual amount of anesthetic.

Meltzer and Auer's method has been used twice in the human; once by Elsberg for asphyxia in a patient with myasthenia gravis, once by Lilienthal for a pulmonary abscess. In the first case, the patient's color became pink and rosy and the heart's action was re-established within a few minutes. The patient was kept alive for five hours, although she never once made a respiratory effort during that time. In the second case, the patient's condition was good during the entire operation; there was no mucus in the trachea, the heart's action was unchanged when the chest was opened, the lungs could be distended and collapsed at will. The breathing became normal upon removing the tube and recovery from the operation was prompt.

Is the Meltzer and Auer method harmful?

In the numerous operations performed at the Rockefeller Institute by Meltzer, Carrel and Elsberg and at the Research Department of the University of California, not a single animal died from the effects of intra-tracheal insufflation nor did the lungs show evidence of emphysema, oedema, bronchitis or pneumonia. The danger of aspiration of foreign infectious material from the pharynx is minimized by the strong centrifugal air stream. Meltzer and Auer showed that the trachea gives an alkaline reaction after the animal is made to vomit strongly acid stomach contents and that a suspension of charcoal placed in the mouth does not find its way into the trachea. No harm results from the passage of the tracheal tube.

The proper use of the Meltzer and Auer apparatus demands constant watchfulness during the entire experiment. Its perfect working in all its parts should be made certain beforehand and the chest must not be opened if intra-tracheal insufflation fails to cause a marked lowering of the respiration. With too small a tube the animal will breathe faster than normally; with too large a tube the return stream of air will be barely audible. Thoracic and abdominal emphysema have been produced by excessive overpressure, even with the unopened chest. An experienced assistant at the bellows or a good water pump must be provided.

In conclusion, the writer wishes to state his conviction that under pressure differentiation, intrathoracic operations will soon be done with the same degree of ease and safety as abdominal operations. Experimental data justify one in prophesying the early adoption of intra-tracheal insufflation in human surgery of the chest, where, with perfected apparatus, its value will be determined by the supreme test—experience. It is to be hoped that theoretical prejudice will not, as in many other fields, retard the development and solution of the problem of differential pressure in the very promising and almost totally unexplored field of intra-thoracic surgery.

1 The first scientific study of pulmonary inflation for the prevention of pneumothorax was made in 1896 by Tuffier and Hallion. The same year Quénu and Longuet studied very carefully and applied experimentally the principles of both positive and negative pressure. The latter work was the basis for all subsequent experimentation in the study of surgical pneumothorax.

2 Volhard (1908) was able to keep curarized animals alive for one or two hours by passing a stream of oxygen through a laryngeal tube. The stream was never strong enough to distend the lungs and the experiment always failed with air alone.

3 Intubation is greatly facilitated by placing the dog or cat in the Rose position, pulling the tongue out and lifting the larynx forward from the outside.

## METHODS OF DIFFERENTIAL PRESSURE.

By RAYMOND RUSS, M. D., San Francisco.

Any discussion of thoracic surgery at the present time must concern itself largely with the problem of differential pressure. Many types of apparatus have been proposed but as yet practical experience is not sufficient to make a final solution of this important question. What the ultimate form of procedure will be is still a matter of conjecture. Some have believed that the apparatus which will finally prevail will be extremely simple in its construction and operation, but it may be added that our knowledge must be greatly extended and new principles elucidated before that happy time can be reached. To those who have followed carefully the development of differential pressure in late years my remarks will be so elementary in character that they will be lacking in interest. I believe, however, that such are comparatively few, that the great majority of those present have not given this matter their serious attention and so I have thought it best to address myself to them.

We know that inflation of the lungs, during respiratory expansion, occurs without increase of air pressure; that it is performed by variations in tonus and that the muscles which dilate the thoracic cage do not contract until the lungs begin to relax, their rate of contraction being proportional to the relaxation of the lung tonus. The lungs are in a state of elastic tension when distended by normal atmospheric pressure,—equal to a column of mercury of 760 mm. height. When the pleura is opened by an incision from without the air rushes in, and when the pressure of air in the pleura is equal to that

within the lung itself, the elastic lung immediately collapses. It has been found that a pressure of 7 to 8 mm. of mercury is sufficient to overcome this elasticity. It is beyond the scope of my remarks to enter into a discussion of pneumothorax but the symptoms and dangers of the entrance of air into the pleural cavity, the pressure thus brought to bear on the mediastinum, with its attendant collapse of the lung and the patient as well and the sudden disappearance of the operative field, are too well known to be dwelt upon by me. These symptoms can be prevented by increasing the pressure of the inhaled air by 7 to 8 mm. of mercury or decreasing the pressure of the air surrounding the opening a like amount.

Is differential pressure always a necessary accompaniment of thoracic operations? This question must be answered in the negative. Frequently the operator is able to cope with the conditions present without such aid. In like manner we can dispense with the Trendelenburg posture in gynecological work or we can make a shrewd guess of conditions within the bladder without the aid of a cystoscope. But again differential pressure is an absolute necessity in thoracic interventions; in deep seated abscess, operations on the oesophagus and resections of a lobe of a lung it must be employed. Many maneuvers have been resorted to for operating on the lung without this aid. Suture of the pleural surfaces has been advocated by Roux. Immediate seizure of the lung and dragging it toward the pleural opening was early practiced by Muller and Gluck. Vautrin (1893) was the first to suture the lung into the wound. Quincke employed caustics to promote adhesions and Krause placed iodoform tampons on the exposed pleura. A gradual introduction of air or oxygen or nitrogen, after the method popularized by Murphy, Folanini and others in the treatment of tuberculosis, has been practiced.

It may be said the degree of gravity in unilateral pneumothorax is influenced by several factors:

(1) The rate at which air enters the chest,—which will depend primarily upon the size of the opening. Garre has shown that when the opening is smaller than the glottis the air on inspiration does not come into equilibrium in the pleural cavity.

(2) The presence or absence of adhesions.

(3) The side. Pneumothorax is more dangerous on the right side owing to the greater volume of the lung and the atmospheric pressure on the vena cava and thin-walled right auricle.

(4) The condition of the lung itself. The retraction will be less in sclerosis, edema, emphysema and calcification.

(*At this point a series of twenty-five stereopticon pictures, illustrating all the more important forms of apparatus and the development of the differential pressure idea, were shown.*)

Methods of differential pressure date back to the time of Vesalius (Sixteenth Century) for the treatment of asphyxia, by introducing a tube into the larynx and inflating the lungs, was practiced by him. Over twenty years ago Fell employed the O'Dwyer intubation tube, to which was connected a foot bellows, as a method of insufflation in the treatment of morphia poisoning and reported excellent results. The dangers of overpressure and the production of emphysema by such crude methods are very great. The method of Lambotte was a distinct improvement on the Fell-O'Dwyer apparatus in that his tracheal tube was longer. Lambotte appreciated the great future of surgery of the thorax for he drew attention to the fact that pulmonary inflation would be a decided help in thoracic interventions and advocated his apparatus for this purpose. Maury's method presents no special features. The Matas apparatus consists of an O'Dwyer tube connected with two parallel pumps, one for inspiration, the other for expiration, the pressure being regulated by means of a manometer. The tracheal tube of Lambotte must be considered as superior to the laryngeal tube of O'Dwyer.

Such intratracheal methods are essentially those of pulmonary insufflation, the respiratory rate and rhythm being imitated by forcing air into the lungs. The weaknesses of such forms of apparatus are apparent. The wide excursions of the lungs in insufflation provoke a strong lowering of body temperature. The dangers of emphysema are great and the high pressure within the lungs and the pressure of the over distended lungs upon the right auricle give rise to serious circulatory troubles.

Methods of differential pressure must obviously fall into two great classes: the negative, in which the atmospheric pressure surrounding the thoracic opening is reduced, and the positive, in which a greater pressure than normal is maintained on the inspired air. The advantages and disadvantages of these principles have been the subject of much controversy. It is true that the expansion of the lungs is the same whether air be rarefied externally or compressed internally. Each side of the question has had its partisans who have sought to establish their claims on physiological grounds but possibly the most important work upon this subject has been done by Seidel, who, after much experimentation, has concluded that the two methods are physiologically equal. There are, however, many material differences in the practical application of these methods and these will be pointed out later.

Sauerbruch, although still a young man, may be considered the father of differential pressure. His work began as early as 1893 when Mickulitz, his chief, charged him with the investigation of this problem. His first apparatus was a large, air-tight cylinder into which the body of a dog was placed, the hands of the operator being introduced into the cylinder through holes protected by cuffs. A negative pressure of ten mm. of mercury was easily established, the chest of the animal was opened and it was found that the lungs did not collapse. Encouraged by the success of this work Sauerbruch had constructed a small room in which he performed his first experiments on animals. This was succeeded by a large cabinet in which the first operations on human beings were done. This cabinet was of sufficient size to accommodate the body of the patient, surgeon and assistants, operating tables, etc. The patient's head projected outside this room and was surrounded by a rubber collar making an air-tight joint. A negative pressure was easily main-

tained inside the cabinet. The body of the patient as high as the thorax was at first encased in a rubber bag which communicated with the outside air, thus placing this portion of the patient under normal atmospheric pressure. This was later found unnecessary and was dispensed with. Sauerbruch early suggested turning the patient about so that the head was in the chamber and the body outside and maintaining a positive pressure. He may thus be considered the originator of the positive method as well. Mayer's modification so closely resembles the Sauerbruch cabinet that it will not be necessary to dwell upon its points of difference.

The negative pressure chamber, although cumbersome and clumsy, possesses several advantages which it is well to bear in mind. Friedrich has used it in many operations on the human subject with a minus pressure of 3 to 5 mm. of mercury, although 7 to 8 mm. of mercury is generally employed. At this pressure the lungs completely fill the pleural cavity and it may be necessary to raise the pressure in order to better expose the operative field. The disadvantages of the cabinet are its size and cost, the separation of the operator and anæsthetist permitting only of telephone communication between them, the cramped and confined positions of the operator and his assistants and the deafening noise of the pumps, for the closed metal chamber reverberates every sound. It also takes time to prepare the cabinet for an operation so that it is in no way adapted to emergency work. The fact, too, that the patient's head is outside makes operations on the upper thorax, on account of the nearness to the dividing wall, particularly difficult. Much of our work has been done on cats and animals of this size would be lost in a negative pressure cabinet.

Quenu and Longet (1896) were the first to make an extensive study of spontaneous respiration under a constant pressure. They encased the head of the patient in a sort of diver's helmet and, though their apparatus was crude, it was sufficient to show the practicability of the method. Murphy, of Boston, constructed a small box into which the head of the patient was placed under positive pressure; with it he performed a number of animal experiments and one human intervention. Brauer's cabinet is similar but of more refined construction and it has been used extensively in many German clinics. The hands of the anaesthetist are introduced into the chamber through cuffs and, by means of an elaborate system of pumps, air under a pressure of +10 is forced through the chamber at the rate of 600 to 800 liters a minute. Peterson later modified this apparatus by adding inspiration and expiration valves and substituting for the water pump as a source of pressure, foot bellows with an equalizing chamber. There is no danger in positive methods of provoking an emphysema if the pressure be kept within the required bounds but the Brauer type has met with criticism because it separates the anaesthetist from his patient. The same difficulty has been advanced against the numerous forms of face masks but it may be added that these difficulties are more apparent than real. Again it has been urged that with face masks vomiting of the patient becomes a serious emergency and Lotsch and Kuhn have provided against this by passing a stomach tube which extends through the mask. This is not necessary for it is our experience, and the experience of others, that vomiting does not occur under positive pressure. Dryer has made some interesting experiments to show that positive pressure prevents vomiting and the large clinical experience of Kuttner is additional proof of this fact.

A study of the various forms of positive pressure apparatus shows that all bear many features in common and that the necessities of the situation decidedly limit inventive possibilities. If the patient is to breathe under increased atmospheric pressure his head must be placed in a cabinet large enough to accommodate the anaesthetist also, as in the apparatus first suggested by Sauerbruch and as later amplified by Engelken, Robinson and Willy Meyer, or the cabinet may be small in its dimensions, the anaesthetist managing the head by inserting his hands through cuffs. Again a snug-fitting face mask covering the nose and mouth may be employed as in the devices of Tigel, Robinson, Flint and others or covering the mouth alone, the nose being closed by a clip, as in the Danis-Mayer apparatus. The method of raising the pressure to the required amount is also of interest. Tanks of oxygen, as originally used by Brauer, or nitrous oxide and oxygen, as in the method of Bunnell, may be employed, or the air compressed by an electric motor or foot pump. Practically it has been found much easier to keep a constant pressure by regulating the exit of air than it has its entrance, although this can be controlled within certain limits. To maintain a steady manometer reading a spring valve exit has been used but a water valve has been more generally employed and has given very satisfactory results. Suction pumps may also be used as in Willy Meyer's elaborate differential pressure chamber.

The apparatus of Janeway and Green, called the positive pressure cabinet, deserves attention. The patient's head is managed in a chamber similar to Brauer's, though somewhat larger, but its special feature is a mechanism on the roof which allows of the rhythmical escape of air. This makes a periodical rise of pressure to say 10 mm. of mercury and a rapid fall to normal; the rapidity can be varied by a rheostat and the whole action is mechanical. The method is thus essentially one of artificial respiration, an apnoea being developed and all movements of the chest wall abolished. The advantages thus derived can be readily appreciated. Janeway and Green have had a large experience in thoracic surgery and this apparatus is aimed to correct the faults of positive pressure as commonly applied.

It is generally stated by writers on differential pressure that 7 or 8 mm., the amount required to prevent collapse of the lungs, is equal to a change in altitude of 250 or 300 feet and hence makes no difference to the patient. As far as the positive pressure face mask is concerned these statements are far from the facts. It will only be necessary for the operator to try the apparatus upon himself to be convinced. With the face mask and a pressure of 10 mm. I have found the sensation most disagreeable; inspiration is attained with compara-

tive ease, but expiration requires great effort, so much in fact that a prolonged anæsthesia would be attended by considerable exhaustion. This strong expiratory effort is noticeable in animal experiments and in the human application of the instrument. To obviate this difficulty I am having constructed a face mask which will allow the timed escape of air, simulating the expiratory rhythm. This difficulty is probably not as great when small cabinets of the Brauer type are used and still less in the positive pressure rooms of Engelken and Robinson, though the latter speaks of the sensation of pressure on the ear drums. In spite of this fault, which is not beyond remedying, the face mask possesses distinct advantages over the more cumbersome forms of positive pressure apparatus.

It is quite evident that the various means of obtaining differential pressure which have been described are far more complicated than the apparatus which surrounds us in the modern operating room and that simplicity is greatly to be desired. I have been much impressed with the method of Meltzer and Auer, since their publication a year ago, for it involves a new principle,—that normal or artificial respiratory movements are not essential to the maintenance of life. Their apparatus and the manner in which it is employed have been thoroughly described in the preceding paper. For experimental work it has proven most satisfactory at the University of California and, with Halsted, I believe it to be "a wonderful contribution to animal work." Its simplicity has made its advent in the laboratory most welcome and yet we may well ask, Is not this seeming simplicity the result of its very crudeness? Elsberg's adaptation of it to work upon the human being answers this question in the affirmative. When all the additions, so necessary to make it a perfectly safe procedure in human intervention, are made, it is simple no longer.

The introduction of the tube through a tracheotomy wound is an easy matter in animal experimentation. The passage of the tube *per oram* is more difficult and requires some little experience; furthermore the results are not so uniformly good as they are by the tracheotomy route. From this the deduction may be made that in the application of the method to human cases the anaesthetist must possess considerable skill, for it is assumed that few operators would increase the surgical risk by performing a tracheotomy unless they considered such a procedure absolutely necessary. Again Kuhn has found, in his extensive experience, cases in which intubation was impossible and many in which it was accomplished after great difficulty. Furthermore the method would be contraindicated in certain diseases of the larynx and trachea and in those conditions in which the lumen is narrowed from without as in aneurism, goitre and other tumors. Elsberg believes it necessary to warm the ether laden air prior to its introduction, but Meltzer denies the necessity of this. The method requires great care in its manipulation. Many times, in the experimental laboratory, we have introduced the tube too far and simply blown up the right lung; the exact position of the end of the tube cannot be accurately determined. Unless caution be exercised overpressure will result and we have found it not difficult to perforate the lung in this way. If a foot bellows be used it must be managed by a person of experience and a large equalizing air chamber is a necessity; the manometer must be carefully watched. An electric pump would probably deliver a much steadier current of air but we have not thus far employed one.

The many excellent features of this method have already been dwelt upon. The apparatus belongs to the great positive pressure group and animals under positive pressure do not vomit; the passage of the tube is not attended by excessive secretion and we have never had pneumonia resulting from its employment. Indeed its experimental use is so satisfactory and the work upon the thorax which can be accomplished with it so remarkable that one is apt to forget the method's shortcomings and be led in a burst of enthusiasm to its immediate human application. By its use the surgery of the heart is rendered comparatively easy and it quiets the tumultuous lung like oil on troubled waters, making work upon this organ no more difficult than one encounters in the daily operative routine.

We have been strongly impressed with the Meltzer-Auer method in resuscitation but whether it is superior to other methods in vogue can only be established after extensive experience. For this purpose Meyer has used a pressure of 12 mm. of mercury in his large cabinet with great success. It remains to be shown also whether resuscitation cannot be accomplished as well by alternating pressure in a specially constructed face mask.

It seems hardly necessary to emphasize the value of animal experimentation in this work. It is only by this means that we may hope to find an apparatus which can be applied to human interventions with perfect ease and safety, an apparatus which will be an open sesame to one-third the human body, the entrance to which has so long been closed to operative skill; thus will be assured for thoracic surgery a brilliant future.

## CONCLUSIONS.

The subject of differential pressure is at present the paramount question in surgery of the thorax.

Positive pressure is the physiological equal of negative pressure and, from a practical point, is much to be preferred.

The Meltzer-Auer method is the most important advance which has yet been made in positive pressure apparatus, but the method is not without objections.

Simplicity is certainly to be desired, but simplicity must not be attained at the expense of safety or reliability.

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# THE FUTURE OF HEART SURGERY.

By HARRY M. SHERMAN, M. D., San Francisco.

In 1798 Desault laid down the rules for opening the pericardium for an empyema situated in that sac and in so doing opened a direct path to the heart. In 1881 John B. Roberts of Philadelphia suggested that wounds of the human heart might be sutured, but the suggestion was not very cordially received. In 1896 Farina, Cappelen and Rehn each gave the

wounded heart surgical aid by suturing it, and the last named did this successfully. In this year, 1896, the surgery of the heart began, and its development has been steady to the present time. In 1902, when the work was six years old, there were collected thirty-four cases of suture of wounds of the heart, most of them punctured or incised wounds, a few of them bullet wounds. In July of last year Charles H. Peck of New York reported a successful suture of a stab wound of the heart and gave a table of 159 other cases—that is, in the six years following the first operative intervention on the heart there were thirty-four cases of the same, in the next eight years there were 125 cases added, showing that the procedure has in it enough of reward to justify its practice. In 1902, 38.2% of the sutures of the heart muscles were successful in saving lives; in 1909, the lists show that 36.2% of all cases have succeeded. This apparently shows no advance; but if it is remembered that these 160 operations have been distributed among 121 operators and that no one man has operated upon more than three cases, the two percentages must be taken to indicate rather that the opportunity for success offered by the condition is the dominant factor, and that the injury has found, in all parts of the world where it has occurred, a remarkably even development of surgical skill to come to its relief. Peck's paper in the *"Annals of Surgery"* for July, 1909, is in the hands of all of us and so need not be extensively quoted here, but there are two or three points in it which I wish to mention. All through the literature on the subject the time of passing the needle and tying the suture is mentioned as having been in the diastole, and this in spite of the fact that in 1902 it was clearly pointed out that this was a physical impossibility, except, perhaps, in the hands of a professional prestidigitateur. Peck honestly says that "the rapid tumbling action of the heart made it impossible for me to tell whether the sutures were passed and tied in systole or diastole." Peck used No. 0 chromicised catgut for his suture material. That catgut was a suitable material was shown in 1902, and that it was the material of choice was pointed out, for the suture must be considered as placed in a potentially infected location, the septic accident occurring in more than half of the cases, and a non-absorbable suture, in that event, would surely perpetuate the infection or require a secondary operation for its removal. It may finally be noted that the septic accident has not changed in the larger list from the percentages in the smaller list, and that its management is still a moot point, or rather the arrangements which may or should be made in anticipation of its advent. Peck points out that the percentage of recoveries in the cases drained does not differ much from that in those not drained, and so we can recognize here a legitimate ground for differences of opinion and practice.

Reported cases of direct surgical intervention for the sake of the heart are up to the present time limited to traumatic conditions, but approaches to the heart are being made from other sides which, while they do not just yet include any distinctly surgical act upon the human heart itself, are surely opening the way for that supreme feat. A. Morison, in the *Lancet* for the 4th of July, 1908, reported a thoracotomy in a case of heart hypertrophy, in which condition the heart, at each beat, was thrust somewhat violently against the unyielding ribs. The effect was a heaving, concussive cardiac action. Four and one-half inches of the fifth rib and five and a half of the sixth rib were removed. The effects of this practically cardiac decompressive operation were good; the carotid and suprasternal pulsations were less marked, the chest capacity was increased, and the painful attacks to which the patient had been subject were lessened or abolished. The paper as quoted says nothing about the later effects on the heart, nor about the prolongation of life, but if life is only made more comfortable the justification of this simple procedure is found.

Massage of the heart, to restore its action, a much-talked-of but little practiced measure, is approaching the time when its application and value may be definitely asserted. Cackovic, in the *Archiv. fur Klinische Chirurgie,* Berlin, vol. 88, p. 903, and White, in *Surgery, Gynecology and Obstetrics,* Oct., 1909, have papers on the subject, and, as the latter covers the ground of the former and the original is available, I will refer only to it. White's experiments, in the Physiological Laboratories of the George Washington University, were upon cats and rabbits. Cardiac failure was caused by chloroform, which was given until first respiration and then heart action had ceased. Subdiaphragmatic massage of the heart, the organ being pressed upon by one hand inside the abdomen, up in the vault of the diaphragm above liver and stomach, while counter-pressure by the other hand was made through the ribs, was then practiced, and at the same time artificial respiration was practiced.

He found that after the heart to auscultation was motionless and the blood pressure had fallen to zero, the fingers in the abdomen could still feel through the diaphragm cardiac movements for some minutes. Waiting until this had ceased, the rythmic pressure was then made upon the heart and the artificial respiration was begun. After a certain period slight motions could be felt to occur in the heart and in the successful cases they were succeeded by regular cardiac action. It was to be noted that cardiac massage alone could not restore both cardiac action and respiration, nor could artificial respiration alone restore respiration and cardiac action. It was also noted that during their efforts at resuscitation the toxic chloroform must be withheld. White collected fifty cases in which, during surgical narcosis, mostly by chloroform or asphyxia by hanging or by laryngeal obstruction, cardiac massage was practiced with ten successes. He added three cases of his own with one success as regards the restoration of cardiac action, but the patient died ten days later of tetanus infection. He concluded that heart massage is an established method of resuscitation, that it must be associated with artificial respiration, that the best method is the subdiaphragmatic, and that success is more likely to follow the sooner the massage can follow the cessation of cardiac action. Of course, the method has no value in cases of cardiac disease. The necessity for its practice will, naturally, cease as chloroform as an anesthetic is abandoned. It is certain that in cases of drowning the method has an opportunity, and I have advocated its use, though

only in the class room, for I have never had an opportunity of practicing it in the condition.

B. M. Bernheim (*Johns Hopkins Hospital Bulletin,* April, 1909) reports experiments made to answer Sir Lauder Brunton's question, "Can a mitral stenosis be transformed by surgical measures into an insufficiency with benefit to the patient?" Experimental stenosis of the mitral opening was the first requirement, and the technique was difficult, as it necessitated the passing of a stitch or ligature around the opening and then tying it to the proper tension. After some failures, the correct method and material were found in a silk ligature which did not include the coronary vessels. The fatalities following the operation were many, only three animals out of thirty having escaped shock, hemorrhage, thrombosis or infection. And only one of these three was finally brought to and through the operation for changing the stenosis to an insufficiency, but its recovery was a distinct reward in its completeness. At the same time it does not seem to me that the answer to Brunton's question has yet been given. The experiments have not been barren, however, for from them has come, as the result of seeing the dilatation of the right ventricle and the consequent impossibility of completely closing the pericardium, the suggestion of opening "the pericardium of certain patients who have become bedridden from chronic myocarditis, with the object of relieving excessive pressure and of allowing more room for the overburdened and dilated heart." This is a laboratory suggestion for a decompressive pericardotomy quite similar in its purpose to Morison's decompressive costatectomy, already referred to, but it is still an open question in these cases if it is the pericardium which is causing the compression, and, if it is, might not the removal of the support of the serofibrous pericardium permit a disastrous dilatation of the degenerated heart muscle?

Franke (*Deutche medizin Wochensch,* Berlin, abstracted in *J. A. M. A.*, vol. XLIX, p. 1481) especially calls attention to the acute compression or heart tamponade which follows when blood, escaping from the heart, is retained in the pericardium, so that finally the pressure within the pericardium equals and then exceeds that in the auricles. "This pressure is the main source of the disturbances in the functioning of the heart—not the injury itself. No matter whether an operation is contemplated or not, the first step is to remove this pressure by puncture and aspiration of the accumulated blood. In most cases, this will render further operative intervention unnecessary, and in all cases should precede it." He urges the general practitioner to puncture when symptoms develop—not waiting for surgical assistance. Even at the best, he adds, more extensive operative treatment is apt to be accompanied by complications leaving a predisposition to organic affections later. He preaches that the future progress in operative treatment of wounds of the heart will be along the line of avoiding an operation, and this, he thinks, can be accomplished by early puncture of the pericardium. Zoege von Manteuffel has reported seven cases of bullet wounds of the heart, in Manchuria, in which complete recovery occurred promptly under expectant treatment alone. Such cases are to be diagnosticated, not operated on, he says. Franke goes further than this, adding "but punctured." Puncture is not only a palliative but a distinct life-saving measure in such cases.

Certain developments in technique are important, and those relating to hemostasis are startling. Haecker's experiments on dogs (*Archiv. fur Klinische Chir.*, Berlin, abstracted in *J. A. M. A.*, vol. L, p. 408) "showed that it is possible to operate on the almost empty heart by compressing the afferent vessels, and that extensive incisions could be made in the different cavities of the heart without permanent injury to the organ. This fact, he thinks, opsn fine prospects for surgical intervention on the heart, especially for the recovery of foreign bodies. His work was done mostly in the Sauerbruch air cabinet, which allowed the chest to be opened up without fear of pneumothorax, the lung continuing its functions undisturbed, while reducing the tendency to hemorrhage when the incision was made and the danger of infection of the pleural cavity. In suturing the organ it should be held in such a way in the hand that the fingers can compress the afferent veins. By displacing the heart forward the vessels are kinked and this arrests the blood supply. He recommends a button suture with medium-sized catgut or silk, taking in only the myocardium and epicardium. The ends of the thread in the first suture are left long and help to hold the organ. The superior and inferior *venae cavae* could be clamped for *ten minutes*, in experiments on dogs, without serious results for the animal. By clamping these veins and the left coronary vein, brief operations could be done with the heart empty without serious consequences. This allows the different cavities of the heart to be opened up and thoroughly searched for a foreign body, and even large parts resected. No air embolism was noted, probably from the underpressure prevailing in the cabinet." His experience seems to indicate that there is a certain point in the walls of the heart near the mitral orifice, injury of which is followed by immediate arrest of the heart action.

It was to be expected that the most dazzling experiments should come from Carrel, and while his work has not, so far as I am able to quote, been on the heart, it has been within the pericardium and so is within the scope of this report. In the *J. A. M. A.*, vol. LIX, p. 28, he reports, under the title "Experimental Surgery of the Thoracic Aorta by the Method of Meltzer and Auer," an incision in the ascending aorta, three c. m. above the heart, and the placing of a suture to close the incision. Incidentally the circulation through the aorta was twice interrupted for periods of thirty seconds each. On another animal the ascending aorta was severed in the middle and a segment of a large jugular vein was interposed. To permit this feat the circulation was interrupted seventeen minutes. So far as the aorta was concerned the intervention succeeded, but the animal for a time suffered from contractures in the hind legs which have been gradually lessening. For other operations briefly recounted, and for a description of the method of Meltzer and Auer by which respiration is maintained with abeyance of respiratory movements, I must refer you to the original article which you all have.

Our committee assigned to me the subject of the *future* of heart surgery, but failed to confer on me the gift of prophecy—a forecast is a simple possibility, but no inspired statement can be expected.

Opening the pericardium disturbs the heart less than opening the pleura does the lung. Pericardotomy may be expected to become a routine procedure for explorative purposes, to evacuate effusions, detach adhesions and also as the first step in a procedure upon the heart. As regards the heart wall, any operation can and will be done on that that is possible or necessary in another muscle. A neoplasm may easily be removed if its pressure is once proven.

Haecher's experiments, showing that any of the cavities of the empty heart can be opened and closed in the search for a foreign body, paves the way for opening these cavities to remove a clot, or to attempt some act upon the boundaries of the orifices. Bernheim has shown that one orifice is susceptible of contraction and then of dilatation, and all that is in the way of inviting similar work upon the others. I do not quite see how the majority of the heart conditions which come to the physician can look to surgery for relief. A too large heart cannot be shaved down to a proper size, nor can a new heart muscle be made. Nor can we expect any surgical path to be opened by the work of Barker and Hirschfelder on the bundle of His.

### Discussion.

Dr. Wm. Le Moyne Wills, Los Angeles: The wonderful progress of the last twenty years has been shown in the papers read before us to-day. Stimulated by the work of Zakharevitch of Russia and De Forest Willard of Philadelphia, and by the interesting and first experimental paper ever produced before this society by Dr. D. D. Crowley of Oakland in 1891 on "Intestinal Anastomosis," I, as Chairman of the Surgical Section, undertook at that date to do some experimental work on rabbits for the purpose of finding out whether the pleura was as inflammable and dangerous, operatively speaking, as then supposed, and whether a pneumectomy and pneumotomy could be done, producing a scar and adhesions, bringing together the visceral and parietal pleura so that operations could be done on the lungs without infecting the rest of the pleural cavity. My experiments showed that this was possible. My work and apparatus at that time were crude in comparison with the work done to-day, but it was the first work done in the West and I had the honor and satisfaction of producing that paper in 1892, and I am proud of having done it, although it was crude. The papers read to-day show what this society has done in the last twenty years, and it makes us realize what can be done in the future with the laboratory men to lead the way and the scientific thoracic surgery men following. Most surgeons are afraid to follow and most patients will not submit themselves to the operation until it is too late for practical good.

Dr. E. Dozier, Napa: From an argumentative standpoint,—which, at this time, is really what all this resolves itself into,—I feel that if the surgery of the thorax, irrespective of the question of pressures, was not in itself such a critical procedure, and had been entered upon as boldly by the surgeons of years ago as that of the abdomen, apparatus would have long since been devised to overcome this purely physical difficulty of keeping the parietal and visceral plurae together. I must, too, express the belief that the ordinary vicissitudes of the usual anesthetic will, with any form of such apparatus, always loom threateningly; and, too, that the necessary extreme skill of surgeon and anesthetist will tend to prevent intrathoracic surgery from becoming a common procedure or attain the ease and safety of abdominal operations.

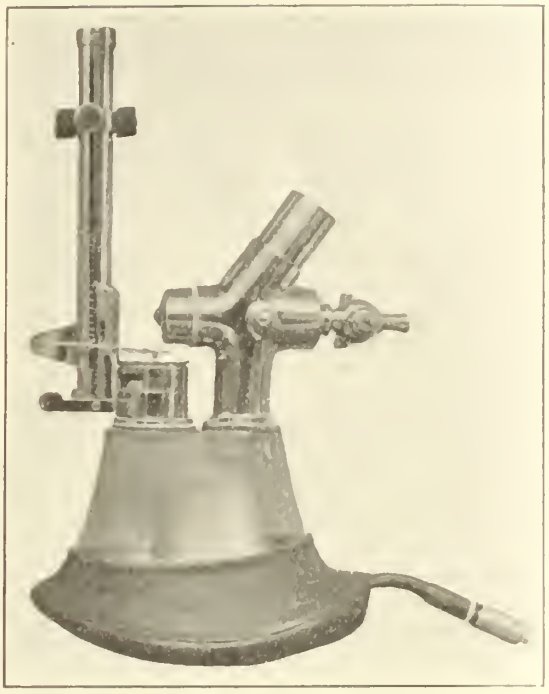
My own experience has been limited to assisting Dr. A. W. Hewlett in some of his heart work. Our problem in this connection was to open the thorax widely in a number of dogs, in order to get at ordinarily inaccessible portions of the heart, and still maintain a normal condition, so far as possible, with respect to the respiration, for a considerable length of time. Familiar with the opposed principles of Sauerbruch and Brauer, we chose to follow the general ideas of the latter. With some plumbing and easily devised accessories, we were able to do this in a fairly satisfactory manner.

Dr. W. I. Terry, San Francisco: Ever since Sauerbruch brought out his apparatus, I have been interested in this work. Last year Dr. Sterling Bunnell worked up an apparatus, a description of which he has published, the major principle being the use of nitrous-oxid and oxygen for the differential pressure. Dr. Bunnell used this apparatus in experimental work at the University of California, and the principle struck me favorably. I had the opportunity two weeks ago to do a human case. The man had multiple bronchiectatic abscesses involving but one lung, and it was hoped that resection of the lung might be done. On April 7, 1910, at the City and County Hospital, with Drs. Williams and Bunnell attending to the anesthetic, I freely opened the thoracic cavity by a large incision and came down upon the lung. Only part of it was free, the rest being bound down by adhesions—both apex and base. One abscess cavity was readily palpated and resection was impossible on account of the adhesions. I only opened the abscess and drained and closed the thoracic wall with drainage, allowing the exit of air but not the entrance. This case was not a fair test for the apparatus. The only fair test would be where both sides are open. An opening of one side can be done without any apparatus, but can be done better with it. Adhesions and chronic infection, which existed so long, made a bad subject. The man died from shock in seven hours. Autopsy was done and no other cause could be found to account for his death; the heart was not dilated. The pulmonary condition was just as had been demonstrated previously by Drs. Ebright and Kerr. I feel that in another case we would be careful in the use of the apparatus. The changes were too rapid and the pressure too great at times and at times too little.

Dr. Sterling Bunnell, San Francisco: While in Cleveland last summer I saw the combination of nitrous oxid and oxygen used as a routine anesthetic, and became convinced that it is the most perfect anesthetic there is. The patients wake up immediately after it and practically no shock results.

For lung work it occurred to me that it would be a fine anesthetic, as it would furnish positive pressure without the use of pump or bellows and considering the fact that the patient rarely vomits from it, the jaw does not relax and fall back and mucus does not collect in the throat, the mask can be allowed to remain on the face practically continuously. Nitrous oxid produces no irritation in the lungs and, being non-inflammable, the actual cautery can be used on the bronchi.

I tried the method in a series of experiments on dogs and on one human case. (The instrument was then demonstrated.) It snaps on to the mask of the Teter nitrous oxid and oxygen machine, of which there are already seven in the hospitals in San Francisco, and by adjusting a slider on a spring one can cause to be exerted any desired pressure on the exit valve of the mask. The pressure in the lungs can never exceed this as the valve will open and the pressure will be kept up to it, as there is a continous flow of the gases into the mask. The result is that the lungs are always kept sufficiently inflated while the chest cavity is open. The apparatus has so far been entirely satisfactory.



**Bunnell's Device for Positive Pressure Under Nitrous Oxid and Oxygen Anesthesia**

The pressure apparatus is shown in the accompanying illustration attached to the mask of the Teter nitrous oxide and oxygen machine. It consists of a spring enclosed in a metallic cylinder. A slider to be moved by the fingers slides down this cylinder compressing the spring to any desired degree. The other end of the spring pushes against the lever arm which in turn exerts pressure on the valve in the Teter mask. Thus by regulating the position of the slider any desired pressure may be applied to the valve in the mask. The device may be attached or detached from the Teter mask in an instant by means of a spring snap and is all that is required to convert the Teter machine into a positive pressure apparatus. The position of the slider shown in the illustration causes a pressure of 8 mm. Hg which is about right for human lungs.

Dr. T. C. Edwards, Salinas: I do not see why we do not make a greater effort to do this work with the local anesthetic. I live in the country, and I know that a whole lot of work can be done with local anesthesia. We can thus treat an empyema, resect a rib, drain the pleural cavity and obviate the necessity of seeing our patient die from shock produced by the general anesthetic. The anesthetic is the added straw that sometimes turns the balance from life to death. I wish this question would be taken up and more fully discussed.

Dr. F. L. Rogers, Long Beach: I do not care to discuss the subject of surgery of the chest further than to report a case briefly which I saw in our city recently, which I believe should have been treated surgically and perhaps might have recovered had the physicians in charge of the case been sufficiently conversant with the subject and possessed of one of the appliances shown here to-day. The patient was a prominent medical man of Long Beach and his death was a tragedy. He was lifting a very large woman under anesthesia from the portable anesthesia table to the operating table. By a miscalculation she slid between the tables, and to prevent her falling the doctor, who was a large man, grasped the patient at arm's length, lifting her two hundred fifty-odd pounds to the table. He knew then that he had injured his chest and soon began to cough and raise blood. For a week he kept at his work and the symptoms continued. Then a chill came and traumatic pneumonia was evident. Still he persisted in directing his own course and prescribing for himself. I saw him on the fourteenth day in company with two of my fellow practitioners. He was pulseless and otherwise in extremis. Death came six hours later without any appreciable rallying of Nature's forces in response to our heroic efforts at stimulation and support. The autopsy revealed some recent pleuritic adhesions and a two and one-half inch tear horizontally on the lower third of the outer surface of the posterior lobe of the right lung. Both the pleura and lung tissue had been torn by the violence of the exertion. The left lung was normal and no other assignable cause was found for his death.

Dr Dudley Tait, San Francisco: First of all in answer to Dr. Rixford, I would say that the question of fixation of the mediastinal septum has been passed upon both clinically and experimentally. Depage of Brussels as early as 1905, advocated the ventral position for intra thoracic interventions, thus indirectly accomplishing fixation of the anterior mediastinal septum. Depage's cases are on record and show only a slight advantage over the former surgical methods.

Elaborating upon Depage's clinical observations, Elsberg made a series of experiments at the Rockefeller Institute and published his findings in the Journal of Experimental Medicine, May, 1909. Elsberg showed conclusively the influence of posture on the symptoms of pneumothorax, the role of the mediastinal septa and the supporting of the anterior mediastinal septum when the animal is in the ventral position, thus lessening the interference with respiration. I am very glad to hear what Dr. Edwards has said in regard to the use of local anesthesia. Our experience in San Francisco points decidedly in that direction, and I am thoroughly convinced that local anesthesia has a promising future in surgery of the chest. In the treatment of certain purulent conditions of the lung general anesthesia is contraindicated. In regard to the very ingenious apparatus presented by my clever friend, Dr. Bunnell, it seems to me that the danger is wholly in the hands of the anesthetist. It requires an experienced man to handle this apparatus, the patient's life depending on the proper use of the little spring at the exit valve. This danger was well illustrated in the two instances where I had the pleasure to be present—one in the dog and one in man. In the dog there was evidence of traumatic emphysema; in the man the pressure seemed exaggerated at times and frequently varied. The theoretical side of the question, the dimunition of the respiratory movements in the Meltzer-Auer apparatus, whether due to an over supply of oxygen or to a vagus reflex, I shall not touch upon. The most important point in the whole question is the insufficiency of the medical diagnostic methods; hence the necessity for exploratory thoracetomy. After all has been said regarding the rare indications of the differential pressure method, one fact remains undisputed: the necessity for a safe exploratory diagnostic method. In this respect the Meltzer and Auer method seems full of promise.

Dr. Raymond Russ, San Francisco: I believe that this society cannot give Dr. Le Moyne Wills too much honor for the excellent work on thoracic surgery which he did in 1892 and which he presented before this society. The date places Dr. Wills as one of the first experimenters in this subject. His communication is of great value. This wonderful state of California was developed by pioneers who came to look for gold in the hills and valleys. Personal gain was their motive, and so great was the lust for treasure that it was many years before the State rose from the sordid and physical to a broader and more humanitarian viewpoint. The pioneer in medicine may search long and diligently without result. At best a few grains of gold will be his

reward,—truths that will be of no great profit to him although their bearing on future generations may be great. In comparing positive and negative pressure, two facts stand out prominently. First, the excursion of the lungs is much less under negative than it is under the ordinary forms of positive pressure. This is a matter of great import in operations upon the thoracic cavity. Secondly, with increasing vacuum the anesthesia becomes deeper, therefore much less anesthetic is necessary with negative than with positive pressure apparatus as generally employed. I do not believe that the elaborate differential pressure cabinet of Willy Meyer will meet with the approval of American surgeons. The construction of such a mechanism has, however, been necessary in order that a thorough study of differential pressure may be made. For this reason the medical profession owes a lasting debt to Dr. Meyer. The tendency, however, in surgery is toward the greatest simplicity. The reasons for this are obvious. Treves would have us beware of the surgeon of many tools. It is for these reasons that I have been much interested in the simple method of Meltzer and Auer. As far as animal experiments are concerned its results have been most satisfactory. Whether or no it will prove as efficient in human cases experience alone can demonstrate.

Dr. Lobingier, closing: I had expected to take up in connection with the discussion of the question of pulmonary abscess, the intelligent work done by Dr. Wills some years ago, and to pay a tribute to the work which he did and reported. We know that this was only another illustration of the broad and courageous temperament which he has shown. In 1900 he reported two interesting cases of pulmonary abscess which he successfully drained. Another point which I meant to emphasize in my paper was the necessity for recognition of the changed situation in human subjects which we are called to consider as in contradistinction to those of the animal which has no inflammatory change in the lung. The Meltzer-Auer apparatus is particularly favorable for operations within the thoracic cavity because of the repose which it brings to the viscera. The movement of the lung is practically nil, and the operator has free access to the organs in repose. We must remember in adhesions of the lung tissue, which are most always found and may be very extensive if the inflammatory change has been of long persistence, we have conditions very different from the lung which is entirely free, so that the limitation to the surgery of the lung was a point I meant to bring out later in my paper. We are limited extremely if the lung has undergone serious pathological change. We must make better and earlier diagnosis in these cases, before extensive destruction has supervened. It is not fair to the surgeon to bring a case which is practically moribund and expect him to work some miracle.

## CLINICAL FEATURES OF HYPOPHYSIS DISEASE.*

By HERBERT C. MOFFITT, M. D., San Francisco.

In accepting the kind invitation of your faculty, it has seemed wise to review a field made fertile by the efforts of many different men, to choose a subject of interest as great to the physiologist and pathologist as to the surgeon, physician, or ophthalmologist. Facts gleaned from the clinic or furnished by experimental physiology have in recent years led to recognition of the vital functions of the ductless glands, and in no field of medicine has physiological teaching been followed by more striking triumphs of rational therapy. Activity along many lines has made it possible to speak authoritatively of certain thyroid affections and of the functional importance of pancreas and adrenals. Since the paper of Pierre Marie in 1886, diseases of the hypophysis have attracted attention on account of their remarkable symptomatology, and numerous publications of the last years have developed new theories in regard to function, and founded new clinical syndromes. The paper of Froehlich in 1901, that of Paulesco in 1907, and the recent publications of the Vienna School may be mentioned. It has been my privilege to see the remarkable work of Harvey Cushing in our own country, and his paper of last July is known to you all. The resume of literature by Borchart in *Die Ergebenisse der inneren Medizin,* Bd. III, is an excellent one.

Despite the wealth of material, our knowledge of the function of the gland in health or disease is far from exact. The syndromes imputed to hyposecretion or hypersecretion still rest upon theory rather than fact; at every step it is essential to realize how intimately the hypophysis is related to other ductless glands, and how complex the relations may become. Here, as elsewhere, enthusiasm over new conquests must be regulated by critical conservatism.

*Anatomy.*—The gland is of complex structure, and is most interesting from an embryological standpoint. Following the description of Herring, we speak of three divisions: the larger anterior lobe or *pars anterior,* the posterior lobe or *pars nervosa,* and the modified cellular structure derived from the anterior lobe, which surrounds the posterior lobe, and extends upward along the stalk of the infundibulum—the *pars intermedia.* The anterior lobe is derived from the pharyngeal pouch described by Rathke in 1838, and is consequently of ectodermic origin. The entire gland is very small, the average weight being 0.6 gram. The anterior lobe resembles the thyroid somewhat in structure. It is extremely vascular, the blood supply being derived most probably from branches of the carotids. The cells are in close relation to wide venous sinuses, into which they may discharge, although Borchardt inclines to the belief that the secretion may travel by way of the posterior lobe. Much discussion has arisen concerning the staining properties and function of these cells, which are classified as chromophile (either of eosinophilic or basophilic variety), and chromophobe. The view that acromegaly and hypersecretion are connected with increased activity of the chromophiles cannot be accepted, as several cases (Hochenegg, Lecène) have been reported in which tumors have been made up wholly of the chromophobe type of cell.

"In the *pars intermedia,* investing the posterior lobe, the cells are of a different type, without eosinophilic granules, and it is here chiefly that one finds a tubular or acinous distribution of cells which have a tendency to secrete colloid resembling in appearance the secretion characteristic of the thyroid gland. These cells also seem, under certain circumstances, actually to invade the *pars nervosa,* into which the product of their secretion is directly discharged, whence, as Herring first pointed out, it seems to pass through tissue channels toward the infundibular cavity, to find its way ultimately between the

* An address before the Oakland College of Medicine.

ependymal cells into the cerebro-spinal cavity of the third ventricle" (Cushing).

The *pars nervosa* is composed of neuroglia and ependymal tissue, and serves probably to transmit the secretion of the *pars intermedia* and perhaps of the anterior lobe.

It is but necessary to remember the deep seat and anatomical relations of the pituitary body in order to appreciate the difficulties of surgical attack and to deduce the symptomatology that must result from its enlargement. It is confined in the *sella turcica* by a rigid dural diaphragm, which explains why decompression operations may at times prove futile for the relief of headache due to hypophyseal tumors. Symptoms from the optic chiasm most frequently result from tumors; the nerves to the eye muscles and the first branch of the trigeminus may be readily involved. Growth upward with invasion of the frontal lobes is not uncommon. Enlargement downward is most important in connection with X-ray demonstrations and in view of surgical attack by the nasal route. It is well to remember the mode of growth inward of the anterior lobe. Cartilaginous inclusions from the sphenoid may be the source of later dermoid growths. The cranio-pharyngeal canal may persist in acromegaly, and adenoid tissue in the pharynx may be more or less in relation with the hypophysis. Erdheim has reported a typical case of acromegaly with a normal hypophysis in the *sella turcica,* but beneath this a separate tumor lay included in the sphenoid.

*Physiology.* Queerly enough, though the anterior lobe has been proved from clinical observation and by experimental removal to be functionally by far the most important portion of the gland, active extracts have been isolated only from the posterior. Oliver and Schaefer discovered that injection of extract of the gland caused rise of blood pressure from action both on the peripheral vessels and the heart. Howell found this action was limited to the posterior lobe, and Cushing believes it restricted to the *pars nervosa.* The rise of blood pressure is more lasting than after injection of adrenalin, but successive injections may lead to a fall in pressure and even to a fatal result (Crowe). Schaefer and Vincent have demonstrated that the posterior lobe extract is a powerful diuretic, not only because it dilates the vessels of the kidneys and increases blood pressure, but also through presence of a hormone with action on the renal epithelium. Borchardt and Cramer demonstrated that the extract will dilate the frog's pupil as will adrenalin.

Borchardt noted the frequent appearance of glycosuria after even subcutaneous injection in rabbits. Boiling does not destroy the active principle of the extract, and a sterile preparation for intramuscular and intravenous injection is now on the market. Dried extracts of the anterior and posterior lobes are likewise available. No convincing results on metabolism have followed experiments with the extract. Hallier and Alquier reported that long-continued feeding of the gland gave hypertrophy of the adrenals and atrophy of the thyroid. No arteriosclerosis has followed the continued use, as has been noted after adrenalin administration (Etienne and Brisot). Bell has recently written of "The Therapeutic Value of the Infundibular Extract in Shock, Uterine Atrophy and Intestinal Paresis," and Wray of "The Treatment of Shock by Pituitary Extract." Similar articles will doubtless continue to appear, reminding us that each new glandular extract is hailed in turn as a panacea. The observations of Crowe, who found profound liver degeneration follow repeated administration of the posterior lobe extract, should teach caution in the enthusiastic use of injections. Sandri has seen loss of weight after repeated injections of anterior lobe extract, and Ebner noted the increase of fat after implantation of several glands; Clairmont and Ehrlich failed to produce symptoms by transplantation; Cushing notes that transplantation of the anterior lobe or injection of its extract may prolong life after removal of the gland in dogs. Relief of headache in acromegaly from administration of the gland has been reported by Franke, Fraenkel, Mendel, Marinesco and others. I have used the extract of the entire gland and lately the extract of the posterior lobe as a diuretic with inconstant and, on the whole, negative results. A patient with chronic nephritis recently had an acute hemorrhagic exacerbation while taking the drug. Two patients with the *dystrophia adiposo-genitalis* of Froehlich have been taking anterior lobe extract for some weeks without apparent result. Much more interesting data have been furnished by animal experimentation and the results of surgery. The conclusions of Paulesco and Cushing seem justified, that the pituitary body is absolutely essential to the economy. Total removal leads in a few days or weeks to hypothermia, disturbances of respiration, and death; Crowe has observed that young dogs survive longer than old dogs. The posterior lobe, including all the *pars intermedia,* with exception of the cells that cling to the stalk of the infindibulum, may be removed in dogs without producing any marked symptoms. No one who has had opportunity of seeing Cushing's work can forget the striking changes in dogs following partial removal of the anterior lobe. The animals grow fat, the hair is shed, polyuria and transient glycosuria may occur, and atrophy of testicles and ovaries has been observed.

*Clinical Features.* As in case of the thyroid, attempt has been made to refer the diseases of the hypophysis to an increased, diminished, or an abnormal secretion, so-called hyperpituitarism, hypopituitarism, or dyspituitarism. *Pierre Marie,* who first wrote of acromegaly in 1886, and described its association with pituitary enlargement in 1889, referred the disease to diminished glandular secretion. Hausemann was the first to suggest that hypersecretion was the more probable cause, and Tamburini, Benda and others have since supported and elaborated this theory. Borchart in a recent review of literature concludes that no typical case of acromegaly has been reported without macroscopic or microscopic changes in the hypophysis. Usually there is glandular hyperplasia or a true tumor or, in absence of a tumor, microscopical examination shows marked increase in cells, particularly large cells with eosinophilic granules. The advocates of the hypersecretion theory have had their positions much strengthened recently by the results of the

partial removal of the gland. In the cases of Hochenegg and Cushing striking reduction of the deformities followed operation. Within a few days one of Hochenegg's patients noticed the gap between the central incisors decreasing and the hands getting smaller. Further changes are shown in these photographs taken from the article of Stumme. It is difficult to explain, in view of these results, why, in certain cases of acromegaly the tumor of the hypophysis may undergo degeneration or atrophy with almost certain diminution of secretion, and yet no amelioration of symptoms be apparent.

The striking features of acromegaly need no description. It is well to remember that the characteristic deformities may be limited to single parts, may be late in developing, and may increase after long periods of quiescence. If disease of the gland with hypersecretion occurs during the period of growth giantism may result. This giantism is frequently associated with infantilism and many of the individuals later become acromegalic. The fascinating book of Launois and Roy deals extensively with the close relationship of giantism and acromegaly. Overgrowth of hair is observed frequently in acromegaly, and in one of Hochenegg's patients, the abnormal hypertrichosis disappeared after the operation. The voice may be much modified, particularly in women, by reason of the changes in the larynx. Polyuria and glycosuria are not unusual symptoms. Borchardt in 176 cases found glycosuria in 40.3%. The glycosuria may be slight and ephemeral or there may be the gravest form of diabetes with a fatal issue. No constant lesions are found in the pancreas. Obesity is not a common symptom, but Pierre Marie noted gain from 64 to 113 kg. during the disease, Wittren from 84 to 108 kg. Sweating and pigmentation of the skin have been frequently observed.

Some years ago a woman of 22 was under observation for a period of six months. Her mother had died a year previously with most marked myxedema. For three years the girl had not menstruated, though her general health had been perfect. Her chief complaint was of the very noticeable change in her voice, which had subjected her to much ridicule in her capacity of a telephone "central" on account of its pronounced masculine quality. In the past year a decided mustache and beard had developed to her further mortification. There was decided thickening of the nose, lips, and tongue, but no enlargement of the extremities. Headache was frequent but not pronounced, the urine was negative and the backgrounds of the eye were normal. The trophic changes definitely progressed during the six months of observation, at the end of which time the girl committed suicide on account of her increasing deformities. Unfortunately no autopsy was obtained, but the amenorrhea, hypertrichosis, change in voice, and increase of size of nose, lips and tongue made pituitary disease a certainty.

One of the most interesting and often an early symptom of hypophysis disease is amenorrhea in women or impotence in men. It is a symptom frequent alike in acromegaly and in the conditions of assumed hyposecretion associated with obesity. Amenorrhea may precede for years the characteristic deformities of acromegaly, and Marie and Erb date back the onset of the disease to this symptom. The decided sexual changes in Cushing's dogs after partial removal of the anterior pituitary lobe was noted above. It has long been known that hypertrophy of the hypophysis takes place after castration and Fichera has lately added new observations to the literature; in rabbits no hypertrophy took place if testicular extract was given. Enlargement of the *sella turcica* has been demonstrated by Tandor and Gross in the peculiar self-mutilated individuals that constitute the sect called Skoptzys. Physiologically enlargement of the pituitary occurs during pregnancy. Comte reported autopsies on six women dying during pregnancy or soon after delivery; the hypophysis weighed from 0.54 to 1.265 grams instead of in the normal 0.48 to 0.6 grams. Stumme, and Erdheim and Stumme have contributed elaborate reports based on the examination of 150 cases. The enlargement increases with advancing pregnancy, is chiefly in the horizontal diameter toward the sinus cavernosus, and may reach a size two and one-half times the normal. There is proliferation of cells in great numbers, particularly of a variety they call "chief cells." Nolen has published recently "Ein Fall von zuerst in der Schwangerschaft aufgetretenem und in zwei nachfolgenden Schwangerschaften jedesmal recedivierendem Pseudotumor cerebri." He mentions the communication of Plavec on the relation of hypophysis enlargement to migraine, and suggests the possibility that in chlorosis severe head symptoms may be due to pituitary hypertrophy. That decided enlargement of hands and feet may occur during pregnancy with thickening of the features and growth of hair on face or body has long been known. These symptoms subside quickly, as a rule, after delivery, as did the severe phenomena observed in Nolen's patient. In nursing women there may be delayed involution (Stumme), and it is possible that permanent changes, not unimportant clinically, may remain.

A woman of 30 seen last summer had been perfectly well until the later months of her second pregnancy four years ago. Asthenopia and pain in the eyes were the first symptoms. After delivery she was greatly depressed and indefinitely nervous. She nursed the baby four months, until her milk gave out. The periods did not return for eight months, and ever since have been extremely scanty and at long intervals, although they formerly were profuse. She could not read for over a year, and had to wear dark glasses. The skin has been very dry, and she has been much troubled with paresthesiæ in the extremities and along the cervical spine. The hair has become very scanty. The weight has increased 20 pounds. The eye fields show an irregular, not characteristic retraction; fundus negative; axillary and scalp hair dry and thin, the skin dry; nose somewhat thickened; thyroid slightly enlarged. A thick roll of fat covers the upper abdomen and lower ribs. Both ovaries were palpable and decidedly hard. Under ovarian extract, given without her knowledge, the patient has improved surprisingly in the last months, the indefinite nervous symptoms disappearing, and menstruation becoming more nearly normal. Unfortunately no X-ray of the *sella turcica* was taken.

Without doubt many of the symptoms in hypophysis disease are due to concomitant or secondary changes in the other ductless glands. Changes in the thyroid are frequent in acromegaly, and Murray has recorded cases with struma as the first symptom. Thyroid enlargement has developed quickly after partial removal of the pituitary by Hochenegg and Cushing. Clinical combinations of myxedema or Basedow's disease with acromegaly are by no means infrequent. Conversely the hypophysis may hypertrophy after thyroidectomy, as noted by Rogowitsch, Stieda, Hofmeister, Akopenko, and others. Virchow substantiated the observation of Nièpce, that the hypophysis is frequently increased in size in cretinism. Auerbach has demonstrated enlargement of the *sella turcica* in myxedema, and Uhthoff has made the diagnosis of an enlarged hypophysis in myxedema from the ophthalmological examination.

A woman of 35 has been under my observation for seven years. A partial thyroidectomy was done six years ago for relief of typical Basedow symptoms. Four years ago it became necessary to remove still more of the gland, as symptoms of hypersecretion had returned. Some weeks after the second operation severe headaches, chiefly frontal and temporal, developed with pain back of the eyes and inability to read for more than a few minutes at a time. An examination some months after operation by Dr. Hulen showed beginning atrophy of the nasal halves of both discs and a bilateral limitation of the temporal fields. The periods have become extremely scanty with intervals of months between them. The patient has gained from 130 to 195 pounds, and the obesity and other symptoms have been uninfluenced by thyroid extract. The eye symptoms have remained stationary, and the headaches have improved. An X-ray of the base of the skull gave an indistinct outline of the sella from which no conclusions could be drawn. The administration of extract of the anterior lobe during the last months has been without influence on menstruation or obesity.

Changes in the adrenals, thymus, pancreas, and parathyroids have been described. Literature on this "insuffisance pluriglandulaire" is beginning to accumulate rapidly. The subject is a most fascinating but complex one. We are still far from being able to speak finally as to the role of each gland in the symptomatology of diseases affecting chiefly one member of the group, and rational therapy must wait upon further experiment and observation. It will suffice here to mention the communications of Eppinger, Falta and Rudinger, of Claude and Gougerot, of Laignel-Lavastine, of Rénon and Delille.

In 1901 Froehlich published a description of a remarkable syndrome, the so-called *dystrophia adiposo-genitalis* which, from the convincing experiments of Cushing as well as from clinical observation, would seem to depend upon diminished or, at any rate, distinctly modified secretion of the anterior pituitary lobe. "These patients, in addition to the local pressure symptoms of a growth in the hypophyseal neighborhood, show small stature, infantile genitalia, hypotrichosis, and an excessive deposition of fat." (Cushing.) If the hypophysis disease be manifested first in adult life, the stature is, of course, not modified, but obesity and amenorrhea or impotence are prominent symptoms.

Case 4. A boy of 16 was in my wards for some weeks last year in the University Hospital. He had pronounced hydrocephalus with optic atrophy and almost total blindness. Headaches had been severe until, after a fall some months previously, cerebrospinal fluid had begun to drain freely through the nose. The boy was noticeably fat, of small stature and infantile type. There was no axillary or pubic hair, the nipples were those of a child, and penis and testicles were small. The case probably represents one of secondary hypophyseal involvement such as Cushing has described.

Case 5. In April, 1907, an unmarried woman, 32, consulted me on account of headaches and failing vision. Between the ages of 9 and 15 she had attacks of hemicrania about three times a year. Her father and members of his family had migraine. At 13 she was thrown from a horse, and the back of her head hurt her some months afterward. Menstruation began at 13, and was entirely normal until the age of 20, when it stopped without cause. After local treatment for five months, there was a slight show, but no period since. Three years before, while running for a car, she fell on her stomach and face, and the right eye was black and swollen for ten days. Two years ago she noted dimness of vision, and tried glasses without effect. A little later she noticed she constantly ran into things. At this time she would have severe pain over the left eye every afternoon. A year later occasional diplopia would occur, and in December, 1906, she had severe headache one afternoon with amaurosis for ten minutes and subsequent vomiting. An examination by Dr. Thomas of Oakland had demonstrated a complete right hemianopsia early in 1906. In the last three months pain back of and through the left eye had been much more frequent and severe, coming in paroxysms of a few minutes' duration. Cough or straining at stool caused severe pain in the back of the head, and there was frequently a peculiar congested feeling about the left ear, but no tinnitus or deafness. Several attacks of transient amaurosis followed by vomiting had recurred. No polyuria had been noted. She had gained from 145 to 165 pounds in the last five years. Repeated examinations were made during 1907. The patient suffered intermittently from severe headache. She was somewhat dull with a peculiar childish disposition and a tendency to the "Witzelsucht" seen most frequently in frontal tumors. Memory was distinctly impaired. No acromegalic changes were noted at any time. The eyes were prominent, but there was no exophthalmos. The Wernicke hemianopic pupil reaction was demonstrated without question on two examinations. The fundus showed slight shifting modifications of the normal, low grades of papillitis most marked in the left eye. There was slight thyroid enlargement. The hair of the scalp and eyebrows was somewhat thin, but axillary and pubic growth normal. Reflexes were not modified. An examination by Dr. Adelaide Brown showed an infantile vagina and a very small uterus. The ovaries could not be palpated. Polyuria of 3000 to 5000 cc. was occasionally observed, and while in hospital, glycosuria was twice determined; after ingestion of 100 grams of glucose 0.6% of sugar was found after four hours. The diagnosis of brain tumor was, of course, apparent, and from the long duration with amenorrhea, visual symptoms, polyuria and glycosuria, a hypophyseal localization was most probable. An X-ray plate of the base of the skull was unsatisfactory. In February, 1908, a decompressive operation under the right temporal muscle was done by Dr. Terry. For some months afterward headache continued unmodified, as might be explained if the tumor lay wholly below the dural diaphragm. In the past year, however, the patient has been decidedly more comfortable, and any direct attack of the

gland by the transnasal route would not seem justifiable.

Case 6. Some months ago Miss C., aged 29 years, was brought to me for examination by Dr. Louis Deane, to whose kindness I am indebted for this report. The patient had always been well and active. She began to menstruate at 15, and continued to do so normally until, without cause, the periods ceased at 18. Early in 1907 frontal headaches began to be troublesome, especially on arising or after using her eyes. In November, 1907, Dr. Deane found the vision in the right eye 20-30 and in the left 20-24. There was beginning atrophy of the right optic nerve. The nasal sinuses were normal. In September, 1908, vision was 20-65 right and 20-30 left with a bitemporal hemianopsia for form and color but not for light. Wernicke's test showed positive pupillary reaction. The area of partial blindness showed a distinct vertical border passing directly through the center of the macula and involving the entire temporal fields but more profoundly on the right. An X-ray by Dr. Freytag showed a haziness of the bony outline of the sella. Gradually since that time the limitation of the visual fields has remained the same, but central vision of the right eye has decreased to 20-200 with a corresponding pallor of the entire papilla. There are no deformities of acromegaly, no obesity, and no abnormal signs in the nervous system. Treatment had been with iodides and arsenic up to the time of the patient's disappearance.

Case 7. On November 9, 1909, a young woman of 23 was brought to me on account of marked depression and peculiar phobias that had developed within the past three months. For four years she has had frequent severe headaches. Periods began at 14, have been scanty for two years, and stopped eight months ago. The appearance was that of a girl of 16 or 17. The face was round, fat, but there was no enlargement of lips, nose or tongue. The hair of the scalp was extremely dry and very thin, the axillary and pubic hair normal. The thyroid was not palpable. She was stout but not fat. The uterus was of normal size. The veins of the fundus were large, but there were neither neuritis nor atrophy. The left visual field was contracted. An X-ray plate showed distinct deformity of the base of the skull with obscurity of the sella region. Under treatment for some weeks with anterior pituitary lobe extract, there has been no appreciable change in symptoms.

Church has recently communicated a number of cases of pituitary tumor without acromegaly, in which diagnostic points are well emphasized. The combination of Froehlich's syndrome with the general signs of brain tumor and particularly with optic atrophy or bitemporal or homonymous hemianopsia is characteristic. Polyuria, glycosuria, abnormal drowsiness are suggestive symptoms. In adults amenorrhea or impotence, obesity or local fat deposits, or *adipositas dolorosa* should lead to careful investigation of the other signs of pituitary disease. The visual changes are well described by Zander, Crzellitzer, and Uhthoff.

Since Oppenheim's communication in 1899 the importance of X-ray plates in the demonstration of changes in the *sella turcica* has received universal recognition. Erdheim's conclusions are of importance in determining the question of surgical interference. If the tumor be limited to the sella, the upper opening is not apt to be widened, and the cavity is deeper; but there is no absolute way of judging of the extent of the tumor upward. Tumors in the neighborhood of the pituitary body may lead to more obtuse canting of the saddle. The enlargement of the sinuses is often a striking feature in radiographs of pituitary tumors.

In conclusion, reference must be made to recent operations on the pituitary. Horsley is reported to have performed thirteen operations with two deaths, but details of his cases are lacking. He attacks the tumor from the temporal intracranial route. Von Eiselsberg has operated by the trans-nasal route upon three patients, one case of acromegaly and two cases with Froelich's syndrome. In one of the latter, a man of 20, the operation was followed by improvement of vision, growth of hair, loss of weight, and development of the genitalia. A woman of 33 with acromegaly of eight years standing was operated upon too soon after a nasal catarrh, and death occurred in two days from meningitis. Borchardt tried the intracranial operation to relieve a man with typical visual disturbance and severe headaches. The operation had to be abandoned, and a trans-nasal one done later with relief of headache and improvement of vision. Hochenegg has reported three operations, one of which is pictured in the article of Stumme. In a second case of acromegaly a malignant adenoma of the pituitary was found, and partially removed. Quick change in the facial deformities followed, and the abnormal growth of hair on lips, cheeks, thighs and abdomen rapidly disappeared. Five months after operation there was no return of menstruation. A decided goitre developed. In a third case of acromegaly, sudden death took place thirty-six hours after operation. A malignant tumor was found at autopsy with extension into the left frontal lobe. All these operations were done by the nasal route. Schloffer as far back as April, 1907, operated upon a man of 30 with symptoms dating back seven years,—headache, vertigo, bitemporal hemianopsia, loss of sexual power, and loss of hair. Some improvement occurred during five weeks, but death resulted from the remaining growth, which was found to extend into the frontal lobe. Cushing has reported two successful operations for acromegaly. A patient of Kocher died twenty days after operation from the extensive growth, only part of which had been removed. Lecène has recently reported a carefully observed case of a man of 38 with acromegalic symptoms of sixteen years' duration. Five and seven-tenths grams of the hypophyseal tumor were removed by a trans-nasal operation. Death took place suddenly thirty-six days after operation, and at autopsy multiple projections of the malignant tumor were found penetrating and surrounding the structures at the base of the brain. Lecène concludes with very pertinent criticism of the blind procedure that the trans-nasal operation must necessarily be. Church reports a sudden death following an operation by McArthur. These results are not particularly encouraging, especially as the cases reported benefited are from such recent dates. Severe pain and advancing disturbance of vision would call loudest for surgical interference, but it must always be remembered that spontaneous remissions of tumor symptoms or even permanent standstill have not infrequently been observed. The trans-nasal operation is, as Lecène very justly observes, an ex-

tremely blind procedure, and there is no way of telling how far the tumor has extended beyond the sella. Perhaps the intracranial method may be perfected in future, or a decompression operation with slitting of the dural diaphragm covering the hypophysis might relieve pressure symptoms. X-ray treatment has as yet been of no benefit, and the favorable reports from opotherapy are not at all convincing. We have seen that many other glands suffer from the pathological changes in the pituitary, and it is not probable, therefore, that a specific cytotoxic serum would be of any particular value. We may have just pride in the achievements of the past and all hope for the conquests of the future, but most careful selection in cases for operation is the wisest counsel for the present.

## A PLEA FOR A STATE INSTITUTION FOR THE TREATMENT OF CHRONIC ALCOHOLIC AND DRUG HABITUES.*

By R. E. BERING, M. D., San Francisco.

During an experience covering eight years I have received many pitiful letters from men and women who were addicted to the alcohol, morphin and cocain habits who had an honest desire to be freed from its terrible slavery, but unfortunately had no means wherewith to pay even a portion of the necessary expense. I have investigated a number of these cases and found them of much merit. Many I treated and sent home happy and useful citizens.

The appeal has been from husbands using the drug without the knowledge of the wife, a wife using it as a result of some previous illness who has tried but was unable to throw off the yoke of bondage, a mother appealing for the restoration of her son, and sisters looking after the welfare of some errant brother.

It is in behalf of this class of sufferers that I present this paper to-day in the hope that it will meet with your approbation and that some action may be taken by the society voicing its approval, to the end that legislation may be had meeting the requirements of these ever increasing evils so that many people now considered useless will be restored to their proper position in life, thus bringing happiness and comfort to blighted homes; and a practical economic measure started that will be the saving to the state of large sums of money through the lessening of crime.

According to the biennial report of the State Board of Prison Directors there were confined in the penitentiary at San Quentin 1702 prisoners with the following habits,

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|---|---|
| Addicted to liquor, tobacco, and opiates | 39 |
| Addicted to liquor and tobacco | 876 |
| Addicted to liquor | 12 |
| Addicted to tobacco | 389 |
| No habits | 487 |
| Habits not stated | 348 |
| | 1702 |

thus showing a large percentage of the prisoners are addicted to some noxious drug, which upon a close investigation would show many of the offenses against the law were committed while under the influence of one or more of the various drugs mentioned.

Hoisholt says: "There were received in his department at the State Hospital at Stockton, between July 1, 1901 and July 1, 1906, 673 patients, out of which number 104 cases, or 15.15% of the total number admitted was caused from alcohol. The 104 alcoholists included 48 cases of delirium tremens. The proper place for the cure and treatment of this form of alcoholism is in a home for inebriates.

"Applying the above percentage to the total number of male patients admitted at the five California State institutions during the past five years, that is 4,505, the number of cases of delirium tremens committed during this period may be estimated at about 350, or 70 cases yearly.

"The cost of transporting and committing this number of patients an average distance must have been more than $3,000 judging from the bill, a copy of which is in my possession, presented to the State for a patient sent from Oakland to Stockton. This sum and perhaps considerable more is annually expended in this manner and does no real good to the patient. It only serves to increase the income of the sheriff's office."

During a period of four years 2,436,771 pounds of crude opium containing 9% or more of morphine, 783,259 pounds of smoking opium and 59,000 pounds of morphine were imported. Out of this amount 50 to 90% was used illicitly. When we consider the use of such an enormous amount of a drug which reduces the user to the lowest depths of depravity, then it is no wonder that so large a percentage of crime is attributed to this class of citizens.

There is no poisoning so widely spread and so rapidly increasing as is the poisoning by whisky, morphin and cocain, and there is nothing else in life that will cause the same amount of want, distress, unhappiness, heartache and crime as the above mentioned drugs.

According to reliable information 84% of crime, 85% of the paupers, 70% of the insane, 70% feeble minded and 60% dependent children is caused by alcohol.

Warden Hoyle of San Quentin prison says: "There is little doubt in my mind but that such an institution as is proposed to establish, if conducted on sane and practical lines, would prove of considerable benefit to humanity in general and in consequence become more or less a factor in lessening crime."

There is no other kind of poisoning that so degrades brain structure and disturbs mental function while physically degenerating bodily texture and undermining vital organs or which is so far reaching in its evil as to literally follow the Biblical teaching "that the sins of the father shall be visited upon the children even unto the third and fourth generations."

* Read at the Fortieth Annual Meeting of the State Medical Society, Sacramento, April, 1910.

With regard to the effect of alcoholic abuse upon the progeny of the individual, Hoisholt says: "There can be no doubt that such children are more apt to become insane or develop criminal instincts than children of healthy parents. They are more apt to develop symptoms of other nervous diseases, or apt to be feeble-minded, epileptic, show physical deformities or have marked drinking habits. Aside from neuropathic tendencies the children in a drunkard's home usually receive a poor education, surrounded by untidiness and misery, and are influenced by the bad example before them."

Bourneville, who studied 2,554 children admitted to the Bicetre and Fondation Vallee—2,072 boys and 482 girls—all of them suffering from idiocy, epilepsy, imbecility or hysteria, found that 1,053 of them were the offspring of drunken parents, 933 having drunken fathers and 80 drunken mothers.

Gentlemen, if this dreaded curse is not eradicated or held in abeyance it is with sad thought we picture the coming ages. There will be retrogression and instead of having stalwart men and women expressing the highest possible mental, moral and physical faculties and exercising them for good, we will have a deteriorated race living for their own selfish aims.

Although it has been several years since Benjamin Rush declared that habitual drunkards were diseased persons, there are even yet many men and women to-day who do not agree with this and consider it a waste of time to help one throw off this terrible burden under which they labor. It has been considered almost useless to undertake to cure any one addicted to these habits, that all users were out of the pale of society and could never be restored to good manhood or womanhood, but from an experience of several hundred cases covering every phase of the situation, I am pleased to state to you to-day that these habits are as *positively* and *certainly curable* as are any of the curable diseases. This is a bold and broad statement and one not yet accepted by the general medical profession in all of its detail, but it can be demonstrated to the satisfaction of any one.

As to the ability of science to cure these habits I mention some opinions from men who have devoted a lifetime to this work.

Dr. Day, for many years head of the Washington Home, Boston, an institution now in the fifty-second year of its existence, made a study of 8,000 cases that had been under treatment and found over 30% sober and temperate. He says "that 22 years' experience in this work has taught him that the task is neither hopeless nor thankless, nor would it be if the measure of success had been lessened one-half from the known rate of percentage of cures.

Dr. Mason, formerly of the King's County Home, New York, examined the records of 2,000 cases that had been away from the asylum for ten years and found 36% of all cases cured."

Dr. T. D. Crothers, of Hartford, Conn., editor of *The Journal of Inebriety*, author of much note, says: "The best authorities unite in considering 30% of all patients remaining under treatment for one year or more as permanently cured."

The reports of the Foxborough State Hospital, Mass., show 30% or 40% of the patients remain temperate for a long period and from 15% to 20% show definite improvement.

Switzerland, has long since learned that inebriety is a curable disease and that it pays to maintain hospitals for this purpose. At Ellikon, near Zurich, such a hospital has been maintained for the past 19 years. The results of its labors are most encouraging and prove conclusively that the treatment of inebriety has long since passed the experimental stage.

From the 18th annual report we learn that out of 531 patients discharged between 1899 and 1901, there were cured 240, or 45.2%; improved 125, or 23.3%; relapsed or unheard of 165, or 31%.

Of 255 patients discharged between 1901 and 1906, there were cured 104, or 56.4%; improved 61, or 28.9%; relapsed or unheard of 50, or 19.6%.

At Knoxville, Iowa, there has been in existence for the past three years a state hospital for inebriates; the results thus far are very satisfactory. From the second biennial report we learn that out of the entire number of patients admitted, 774, 41.1% are known to be cured and living up to the condition of their parole.

When we consider that in the above mentioned institutions the worst cases are encountered, the percentage of cures is encouragingly high.

The states of Massachusetts, Connecticut, Iowa, Minnesota and Pennsylvania have state institutions for this work. Tennessee has laws committing patients to such institutions.

When the Southern California Hospital was established by the state it was intended as an institution for inebriates, but the number of insane people increased so rapidly that the provisions permitting the commitment of inebriates had to be repealed.

New York and New Jersey have a bill before the legislature favoring this plan.

The Federal Government is now providing accommodations at Washington for this work.

Dr. T. J. J. Burgess, Medical Superintendent of the Protestant Hospital for the Insane, Montreal, Quebec, says that "I am of opinion that state institutions for these cases would be of distinct value."

The trustees of the Foxborough State Hospital, Mass., are so well satisfied with the results of that institution that they have recommended to the governor that the present institution be disposed of, and a new site purchased whereon to erect three institutions,—one for men, one for women and the third for a detention colony where hopeless cases are to be kept.

Dr. R. H. Hutchins, superintendent Lawrence State Hospital, New York, says: "I am of the opinion that there is a large number of alcoholic and drug habitues who require treatment in an institution conducted by the state. It is not desirable to admit such patients to institutions for the insane as their influence on insane patients is not good. I believe that such patients may be committed to a proper state institution for an indefinite period dependent upon good behavior and appearance of re-

covery, but that each relapse and readmission should be for a longer minimum period and if it is found that after proper treatment the patient can not resume his place as a useful member of society, he should be committed for life with opportunities for liberty and employment within some industrial colony."

In its report to the Hon. John Franklin Fort, governor of New Jersey, the Dependency and Crime Commission says: "The state needs most urgently a hospital for inebriates as a means of preventing insanity, disease, degenerate offspring, dependency and crime. Aside from its incalculable value as a life-saver of men and women, it would be a great financial gain in the end."

Rossenwasser of New York says, "such an institution could serve as a center of learning for the medical profession with a field fertile with opportunity." He further says, "it seems to me that there is no branch of medicine which is more important and none in which the physician can do more good for humanity. Unfortunately as the field was neglected by the regular profession for many years, the work fell into the hands of quacks and is still looked down upon by many. At least I have found it rather hard to convince physicians and others that the treatment of inebriety is a legitimate speciality." Rossenwasser is entitled to much credit for the educational work he has done in this line in the states of New York and New Jersey.

A letter received from Judge Curtis D. Wilbur, Los Angeles, of the Juvenile Court of that city, is so pertinent to the subject that I quote it in full. He says: "There is not the slightest doubt in my mind that the state should provide an institution for the treatment of chronic alcoholics and drug habitues. The trouble with our present system is, that many of these cases we require to wait until they are absolutely insane before they can be taken charge of by the state in any way, except in jails or prisons. The mere fact that a man has a strong desire for alcoholic drinks or narcotic drugs, does not constitute insanity or justify incarceration in an insane asylum, though judges sometimes yield to the appeals of friends and relatives and even of the victims themselves and send such people to insane asylums where they are usually released in from three weeks to three months and frequently go back to the same habits.

"I have for some time advocated the establishment of a state institution for the care of inebriates.

"The fact is, that many men are sent to our jails and penitentiaries for crime, where if it were not for the drinking habit, they could be safely placed on probation. If, instead of placing these men immediately on probation from the criminal court, they could be committed for the necessary length of time to a state institution and released on probation it would be vastly better. The fact seems to be that most chronic alcoholics and drug habitues do and will commit crime for the purpose of satisfying their appetites.

"It would be vastly better to treat such cases in an institution for that purpose than to attempt to handle them in the ordinary prisons of the state. For instance, it may be cited that last night a drug habitue died in the city prison after having been in jail only twenty-four hours."

It is my firm belief that the time will come when California will have a state institution for this class of unfortunates. Further, laws will be enacted to compel a known habitue to go to this central institution and submit to treatment, and the present laws will be changed so that the superior judge, upon proper showing of a relative, supported by the evidence of a reputable physician, may commit such a person to a private sanitarium for a stay sufficiently long to accomplish a cure. As it is at present, there is no way of restraining a patient and forcing him to take treatment if he will not do it voluntarily, without having him declared incompetent, which means publicity and delay.

Gentlemen, this may seem a Utopian dream, but I firmly believe the time is not far distant when it will be taken up as a battle cry not only by members of the W. C. T. U., but by all men of whatever political faith or religious belief.

### Discussion.

Dr. A. W. Hoisholt, Stockton: I am very glad that Dr. Bering has brought up the subject. It is remarkable that this State, which years ago had an institution of this kind in San Francisco, a very poor one to be sure,—but it did some good,—should have let so many years pass without making any effort for the care of these habitues. There are many reasons why such an institution is needed. We know the influence that the addiction to narcotics has upon the character of the individual. It brings about crime, it changes the morals of the individual, developing criminal instincts in persons whom you would never dream could be brought into such a state. With every year that passes I find more and more how important a role alcoholism plays in regard to epilepsy. I think that statistics are climbing in that regard, almost as they did in the relation of tabes dorsalis to syphilis. It is astounding how many epilepetics you find whose histories show that a mother or father had been addicted to the excessive use of liquor. The other evening I was talking to Dr. George B. Somers of San Francisco who reminded me of his service in the Emergency Hospital in San Francisco some years ago. He spoke of some editorials which he had written for the Occidental Medical Times referring to the arrest of men whom the police had thought were drunk, and who had been sent to jail where they afterward died from fractured skull, etc. I remember myself having called attention to several such cases. In a recent paper on suicide and alcohol I have described the jail treatment of drunkards who are put into a worse place than criminals. I hope that this Society will take steps to express its opinion in support of a plea for a state institution for inebriates and drug habitues.

Dr. Morton Gibbons, San Francisco: I am very much in favor of this plan of Dr. Bering's. To physicians, the reasonableness of his request for legislation, does not require argument, but to the layman the pecuniary side will appeal. In the last year and a half, at the San Francisco County Hospital, there have been admitted 90 patients for alcoholism, representing about 1,392 days at $0.80 a day, making an expense of $1,117 to the taxpayers. This is a sum which can largely be saved if this plan of Dr. Bering's is carried out. I hope this Society will start legislation and see it through.

Dr. W. W. Fraser, San Jose: I am very much in favor of the proposition as recommended by Dr. Bering. I have been giving some study to this subject for a number of years. I consider that an institution of this kind as recommended for this class

of cases an absolutely necessity. My attention has been called to this necessity of late, particularly by the following case. A young woman, 18 years of age, was arrested as a morphomaniae and put in jail where she was confined without being supplied with the drug and in the course of four or five days she committed suicide. There a life could have been saved if she had been placed in the proper place for such cases. I believe that this institution would be a great benefit to the state and a credit to the medical profession who recommended it.

Dr. Fred W. Hatch, Sacramento: I think that we all recognize that Dr. Bering's paper is absolutely timely and expresses nothing but the truth. We can sober a man in jail but we do nothing practically to cure him. We can get rid of the primary effects of morphin or alcohol in jail or in the hospital, but the man after about thirty days or six weeks can not be held because he is practically well—at least sober for the time being. We have to turn him out. The only way we can handle such a situation is to have a state institution for inebriates and opium habitues and then have these patients committed by the court for a definite time to be cared for in the proper way, and released on parole with a condition that he is to stop drinking. This is now practically the law in Iowa where one of the most recent institutions of this kind has been organized. The judge there can commit a patient for not exceeding three years on petition from the family or a friend. He may be released on parole to report every thirty days. If he returns to the hospital as result of breaking his parole, he has to serve out his sentence. There is also a penalty for running away from the hospital which permits the inmate escaping to be sent to jail for from 30 to 90 days. This gets it down to a rigid proposition, but rigidity is needed with these people. Liquor is not the only failing but there is often a combination of evil practices which demoralizes any institution. We have to segregate the cases and have in a sense, a reformatory. In Iowa 1,040 odd cases were treated and 40% recovered. The whole proposition is to get together with the legislators at home, get them interested and at work on this thing. Get them interested and then back them up with petitions.

Dr. Wm. Le Moyne Wills, Los Angeles: This Society should instruct its legislative committee to take up this matter and put its action into definite form at once and not leave it to go before the legislature in an imperfect form. This question can be handled in one of two ways, either as a county or a state matter. The present difficulty being that a drink or drug habitue has to be proven insane before he or she can be committed, detained and treated for such habit. I know of a specific instance—that of a wealthy man—incompetent, but the family can not commit him to a state insane hospital—because he could not be proven so—as the case stands, but he goes from bad to worse. We should either, then, have detention wards in our county hospitals where these people can be properly confined and treated, or else there should be a special hospital under state control with legal provisions allowing forcible detention until the case is cured. I believe that a motion should be made before this State Society to this effect. The reason that I include treatment in county hospitals in this argument is because Governor Pardee was ready to veto the proposition of establishing a state hospital for the tuberculous because there were already too many state hospitals to support, and the county hospital plan was the other alternative but not the ideal. We should try and get something, if not the ideal, at least the practical.

Dr. Edward N. Ewer, Oakland: I advise that if any resolutions are to be adopted, that we cut out the idea of having these patients treated in our county hospitals. The undertaking will be an absolute failure if we attempt the treatment in the county hospitals, where it will be unusual to find physicians interested in the treatment of this class of patients. They can be treated almost as well in the jails as in the city and county hospitals. I have charge of these patients in the Oakland city prison and the condition is awful, as it is in all municipal prisons. I believe that a state institution where they can be especially cared for is the only solution of the question.

Dr. Henry Hildreth, Delano: This is a matter which you are not going to cure by the erection of great reformatories. There is a cure for this state of affairs but we must start at some other point. The root of the evil is the point at which to strike. As far as the liquor habit is concerned, we have had it since time immemorial. It will endure with humanity. Liquor should be conserved and will serve a faithful use if kept within proper bounds. I do not think that it is the liquor that is doing so much harm, but it is the method of administering it. It is the saloon that is doing the damage. Unless you stop the saloon, no matter how many infirmaries you erect, the trouble will not abate. The saloon is manufacturing the drinkers. It is perfectly useless to put up an institution for the benefit of these people and let the factories go on and make more to be taken care of eternally. A man starts on the downward grade, knowing that he will be taken care of probably more carefully than during the days when he starved himself. My private opinion is that the bar room and the loafing place of the laboring man is the place to legislate out of existence in order to make this plan a success. It can never be eradicated otherwise. It has been with us all through the history of mankind and will probably remain in future pages as a paragraph. Our legislators do enough foolish things without adding this act as another monument of the folly of this generation. There seems to be a disposition among those present to shift the responsibilities to the shoulder of the legislators. This is wrong, the duty of the legislator is to embody in a law the will of the people. The people would gladly do without drunkard factories but would kick strenuously at providing the vast sums necessary to care for the physical wreck, caused by encouraged drunkenness.

Dr. T. C. Edwards, Salinas: I agree with the statements made by Dr. Hildreth with regard to beginning the work with the saloon. I have been connected with our county hospital and in my mind the county hospital is not the place to take care of these cases. These men want to be taken care of properly. This great organization should take a firm stand so far as prophylaxis is concerned. We should state from this institution the position that alcohol sustains so far as the use of it is concerned. We all know that the use of alcohol as a beverage is injurious to the man. The British Mercantile Association took this question up from the mercantile standpoint and after thrashing it out, the result was that they declared that even a single glass of beer or wine taken at meal time was injurious to the best interests of the man using it, and that any alcohol to be taken should be after the work of the day was done. As medical men we know that to be true and I, for one, would be in favor of this State Society going on record, so that it might be used for educational purposes, that we are opposed to the use of alcohol as a beverage. We are hitting at the top of the matter and letting the thing continue to grow up. It is not a rational way to do things. The saloons are the curses and I have in mind, in my own town, the case of a man whose little girl meets him after work, walking home with him, to keep him out of saloons. We must strike at the root of the matter as Dr. Hildreth said and we have got to place ourselves on record as being in favor of it.

Dr. P. K. Brown, San Francisco: I want to say that I agree with Dr. Hildreth that we should begin at the bottom of this trouble. I also oppose what the other speakers have said against carrying on this work in connection with our county hospitals. I

will refer to Lambert's article in the Journal of the A. M. A. for September 29th, on the work he has done in the Bellevue Hospital, the city hospital of New York, on chronic alcoholics and people addicted to the drug habit. He has used the Town method there with the greatest success in ridding the hospital of most of the chronic alcoholic rounders. The method has been tried here a good many times and has been most effective. Unless you begin at the bottom you can not justify the existence of state institutions which are dependent upon organized municipal work for their greatest effectiveness and they should never be thought of as relieving the municipality of its responsibility. I believe that the insane asylums should be rid of the alcoholics because of the fact that once a man has been an inmate of an insane asylum, no matter for what cause, it is only too easy for him to escape punishment at a future date for any crime he may commit.

Dr. W. F. Snow, Sacramento: I have no specific thing to say except that in connection with the public health work I am constantly brought in touch with the need which has been expressed by the various speakers discussing this paper. On the other hand, in coming in contact with the various public or philanthropic bodies I constantly see that there is the uniform idea that we should do such a thing, but no one has brought forward a specific way in which the matter can be taken hold of. I think this paper looks toward some definite legislation, and the words of Dr. Hatch suggest that we should interest a number of our coming legislators to investigate this movement if we desire to have certain bills presented to the legislature looking toward a state institution. It is most probable that the Tuberculosis Committee will bring forward some revised bills and we will have two petitions for state institutions. We must decide in what order we are to advance these bills. I think the public health and philanthropic societies are looking to us as a medical organization to know how we stand. Are these institutions to be on the same basis, so far as administrative control is concerned? Of course, none of these things are far enough advanced for an expression of opinion at the present time, but as physicians we should re-read these papers as they are printed in the Journal with their discussions—and I hope these particular papers will be printed early—and we should talk them over with our friends and be prepared by next November to express our convictions as to whether executive action should be taken during the next winter.

## PROLONGED DILATATION FOR DYSMENORRHEA.*

By GEORGE B. SOMERS, M. D., San Francisco.

The discomforts attending the physiological process of menstruation are bad enough, but when there is added an excruciating pain, lasting sometimes several days, occurring, not occasionally, but repeated month after month, as often as the flow recurs, and always looming up prospectively as something to be met and suffered, it is not to be wondered at that the victim finally rebels and begs for relief.

Where the condition is so severe that extreme measures seem indicated, the advice is usually given that the patient submit to a dilatation and curetment. When we consider what this procedure entails, the discomfort, expense and local injury, we ought, at least, to be fortified by the assurance that the measure will be successful. As a matter of fact, the results are often disappointing. In many cases where the advice is given that a dilatation be done, we are met with the reply, "But I have already had the operation and am just as bad as ever." My own opinion is that the cause of failure to get results in many cases is incomplete or insufficient dilatation.

Presuming of course that the operation has been performed in properly selected cases, in other words, in cases where the causes are strictly uterine, dilatation would seem a rational procedure. It is a matter of common observation that marriage alone will often cure dysmenorrhea, and even the severest forms are cured by pregnancy. Furthermore, experience shows that where the operation has been thoroughly done, the results are generally successful.

It cannot be denied that failure is often due to mistaken diagnosis. Dysmenorrhea is not a disease in itself, but merely a symptom. The causes are many, and it is often difficult to locate the condition responsible for the pain. When we consider that all the organs contained in the true pelvis are more or less involved in the menstrual congestion, and that psychic and reflex changes often take place in distant organs, it will be realized that the diagnosis of the cause of dysmenorrhea is by no means simple.

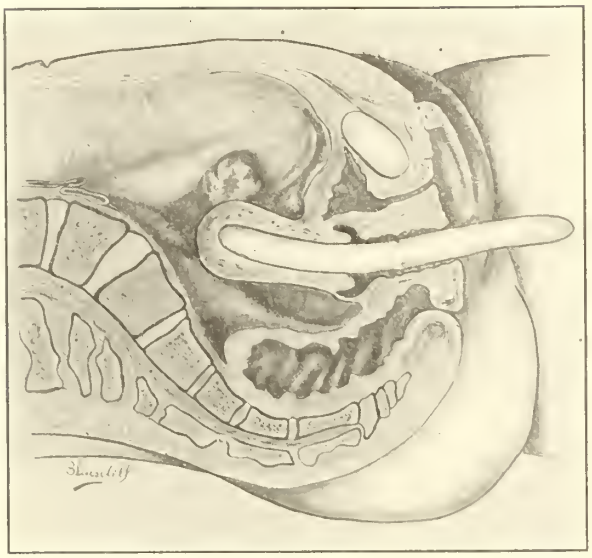
While I do not wish to take up a general consideration of the subject, it will, nevertheless, aid in differentiating those causes suited to mechanical treatment, if we say a word about causes.

Monthly pain may be due to uterine or extra-uterine causes. Extra-uterine causes involve tube, ovary, peritoneum or cellular tissue and are in the great majority of cases inflammatory in origin. Adhesions, exudates and accumulations of pus are common. Such cases are often of a serious nature, and may require a laparotomy for cure. Dysmenorrhea in such cases is clearly only a symptom and the cause is often easily found. Strictly uterine causes are often not easily demonstrated. Pain may be present though the physical examination reveal nothing palpably abnormal.

Uterine dysmenorrhea is more common than extra-uterine, but as a rule is not so serious. Uterine pain is caused by muscular contraction. Among the conditions which produce these contractions may be enumerated the presence of fibroids or polypoids, endometritis, metritis, mal positions and mal development.

The presence of a fibroid or polypoid as a cause of pain is easily understood. Not only does the uterus attempt to get rid of it as a foreign body, but the accompanying clots act as mechanical obstructions in the canal. Dilatation and curetment cannot be considered curative in these cases. Curet-

* Read before the Cooper College Science Club.



The Dilator Should Remain in Place from Eight to Twelve Hours

ment is often a means of relief, but, as a rule, nothing will cure except the removal of the fibroid.

Metritis and endometritis require no particular consideration, since the mere presence of an inflammation is cause enough for pain. But it may be said that these conditions are often distinctly present without dysmenorrhea. These conditions are amenable to simple dilatation and curetment.

The above uterine and extra-uterine causes I have mentioned in order to exclude them from consideration, where thorough dilatation is contemplated.

By far the greatest number of cases of dysmenorrhea are due either to maldevelopment or malposition of the uterus, and the point I wish to make concerns these alone.

In malposition the flexion of the uterus, either forward or backward, produces a narrowing of the uterine canal at the internal os. When the menstrual decidua and blood are shed, they find an obstacle to their free exit. Retention and coagulation are followed by bearing down pain.

In maldevelopment the pain arises from a different cause. It is due to the resistance which the undeveloped tissue offers to the hyperemia of menstruation. In a normal uterus this tissue yields readily, since the organ is erectile and should absorb blood like a sponge. When small and undeveloped it cannot swell and the vascular tension produces pain by compression of the nerve endings.

Whether the condition be maldevelopment or mal position, the indications for treatment are the same—viz., thorough dilatation. By this we expect to attain (1) permanent widening of the canal; (2) thorough stretching of the muscular tissue of the uterus, which in turn (3) overcomes muscular spasm and (4) loosens up the tissues so that they may swell more easily at menstruation.

*Technic.* The best instruments for attaining full dilatation are the Kelly dilators, consisting of a set of eight short graduated sounds. The process of dilatation should take from three-quarters of an hour to an hour, with the patient fully anesthetized. Not only should the dilatation be slowly and carefully done, but the most important point is, that after size 17 or 18 has been reached, the instrument should be left in place. The patient is put to bed with the dilator still within the uterus. When the patient recovers from the anesthetic, if much pain is complained of, a hypodermic of morphin is given. At the end of eight or ten hours the instrument is removed, by inserting a finger in the vagina against the cervix and then withdrawing the sound.

The result of this prolonged stretching is the attainment of the desired end. The first two or three periods following, are generally accompanied by a very free flow, but without pain. Gradually the flow becomes normal in amount and character.

## THE ETHICAL VERSUS THE COMMERCIAL SIDE OF MEDICAL PRACTICE—WHICH WILL WE SERVE?*

By JOHN McMAHON, M. D., San Jose.

An inducement to ask your attention to this subject is stimulated by the reading of an editorial in last month's number of our STATE JOURNAL OF MEDICINE, which, as a preface, I shall here quote for the benefit of the many in our profession who are so pressed for time by their exigencies in the hasty pursuit of the nimble sixpence as to ill afford an opportunity for reading such monthly literature of their professional household.

*Our Fees.*

"Altruism is a good thing, and it is the actuating principle of our profession; but a certain amount of altruism is due the home and the individual. In this state medical fees have always been somewhat better than in other parts of the country; but we are feeling the contract business and it is a menace. True, in many places there are men who are constantly cutting fees; but they generally get what their services are worth if they get anything. McCormack has well pointed out that there are a good many physicians in this country who are absolutely incompetent; they were turned out by the thousands before there was any state board control; in fact, it was this very thing that brought about state boards of medical examiners. In the long run, it is the patient who suffers from these cutters of fees, for the patient gets just about what he pays for. If he gets his medical attention from a lodge doctor at the rate of about 10 cents a visit, he is getting just about 10 cents' worth; and the doctor is getting full pay for poor services. It is up to us to let the people understand these things; it is up to us to make our county medical societies places of, and for medical instruction—and to let the people know that it pays them, in good services rendered, to support their physicians so that they may receive from them the best up-to-date treatment—which is an

* Read before the Santa Clara County Medical Society, March 17, 1909.

expensive thing to give. In Humboldt county the contract business has been cultivated and developed till the whole county is disorganized and demoralized; and the very men who have done it are now beginning to suffer the consequences. Ask them what they think of unlimited contract work. Maintain good fees and insist upon it that they be paid. The physician who conducts his affairs in a businesslike way, has the respect of his patients; they know that he is an orderly man and a systematic worker and in the end it pays. If some other chap wants to do the lodge and contract work, let him do it; that is about all he is worth, and soon or late most of his victims will come to appreciate that fact. But let the people know that good fees mean good doctors, and that poor doctors mean very scant medical treatment."

The article itself is mild in tone when we consider these conditions by which the medical profession is weighted down. It is mild, but nevertheless true; every word of it. It is mild in that it seeks to avoid offense. Truth, however, can not be shorn of its pricks to the conscience of the culpable, and hence becomes to them offensive. The empire of Rome tottered and fell, because of its disregard for truth and honor. Can the medical profession hope to escape like disaster from a similar course? Nay, the germ is already too deeply rooted. Nothing less than the upturning of its soil and the complete extirpation of the pest can prevent it.

The State Medical Society has been importuned to consider and deal with this acknowledged evil, but that body fearing a revolution in its ranks by making it a question of discipline, has sought only to gentle it.

Let us consider for a moment the claim of advantages as made by those who seek and obtain for themselves contracts to do lodge business, for it is a misnomer to call it "practice" unless the latter word be used in its literal sense as practice on the piano, baseball, or some other preparatory educational employment; and while we are about it let us seek to discover who are they that deal out these contracts and what are their purposes. To the first it is asserted by the lodge doctor himself that it provides him clinical material, the study of which is essentially necessary to his ambition of a future practice among the "higher-up" class of patients, besides being more remunerative than any individual practice he now has, or can expect to obtain, by the older method, in which merit wins. Others allege that poverty of riches and dire famine drives them on, no matter how repugnant to their moral and professional ethics such a course may be.

We talk about the dignity and high calling of our profession, yet are apathetic in the face of this degradation. We cry aloud from housetop to housetop for pure food laws; for measures to protect the dear people from incompetent doctors; we beseech the legislature at its every session for more stringent medical laws, or dread the repeal of laws we now have. We assess ourselves $5.00 for a fund to prosecute quacks, some of whom juries acquit; others the courts turn loose after conviction, whereupon we set up a howl that juries and courts are corrupt. Is it any wonder when the profession winks at methods of irregular practice among its own members? Courts and juries have learned *what* our "dignity and high calling" amounts to and thus deal us out measure for measure.

With the exception of the doctors who are compulsory members in order to secure their jobs, the organizations which contract for medical services are mostly composed of persons affiliated with various labor unions and who regard the physicians and the pharmacists as their legitimate prey. Who ever heard of these benevolent and communistic concerns contracting with the butcher to supply their members with soup meat or calves brains day after day at so much per head; the baker to furnish hot biscuit or Parker House rolls; the coffee and tea merchant to supply their needs; the clothier to furnish clothes wherewith they may be clad; or the bootblack that their leathers may shine at a lump sum far below union prices?

Nearly every one of these members belongs to a labor union, yet in matters of trade patronizes those from whom he can buy cheapest and often without regard to quality, while at the same time insisting upon the union scale of wages for himself and exacting for themselves the utmost penny, that too, for limited hours for a day's work, not one moment more under penalty of being disciplined by his union, while the poor, helpless lodge doctor snatches at a few crumbs doled out to him for his attention all day and all night, and blesses his seeming benefactors for their munificence for throwing a few crumbs his way.

The union stamps its label on its own wares, or on the products of its own labor, while estimating the lodge doctor at his own appraisement stamps him as a man who cringes and with pitying cry, offers his excuse for not obeying his master readily. Like the slave which he is to these orders, he has not enough manhood left in him to uphold the dignity of his profession in refusing to obey the dictations of the order of which he is a hireling, while the members they serve follow the laws of their craft, which they are compelled to obey or be expelled, as scabs, from the order. It boycotts and cries unfair should a contractor, manufacturer or tradesman employ other than union labor, or attempt to pay their employees less wages than the union scale, while they look upon the medical profession as serfs to do their bidding, knowing full well that it, too, has a scale of fees which the lodge doctors themselves helped to make, but have not the honor to uphold. Why should this class of people be seeking charity from the medical profession?

No other problem before us to-day is so fraught with serious disaster to ourselves and those who will take our places in the profession when we are gone. That the medical profession has descended from its high pedestal and fallen into the outstretched arms of the siren of commercialism is as apparent to the layman, to courts and juries as it is to ourselves. With these conditions staring in our faces and apologizing for them to each other as we do, we avoid the application of any remedy. We have tried expostulation and admonition, but men devoid of self respect are hard to convert to personal honor. We have appealed to what remains of honor and re-

spectability without avail. Sense of shame is dulled and ethics of which we were so proud to boast have been scandalized and relegated to oblivion. Ostracism from professional intercourse has been tried in other places and abandoned. There is a potent remedy at our very doors. Shall we use it? Its taste is bitter and nauseating, but it will cure and put more money in the lodge doctor's pocket than any contract, but it kills the sublime virtue of charity which has ennobled the true physician for centuries gone by. The poor and destitute will be ignored —expected to pay the same fee for service that is charged others. There can be no discrimination. The old advertised rule of the quack, "no cure no pay," would be reversed, and "no pay no cure" will be our motto. Friendship will yield to dictation or iron-clad rule. We will be as exact in all things, save hours of toil, as the most sensitive labor unions demand.

The remedy for the cure of lodge practice is found in the application of "similia similibus curantur." Become a labor union ourselves and affiliate with the council of "federated trades" as some of the members have suggested. Should this society or any number of us adopt this course, we would be under protection of union laws and fixed fees recognized, from which there could be no reduction, while the more ambitious and meritorious would not be prohibited from charging a fee in excess of the schedule; in fact, "all the traffic will bear." Then will the cut-rate physician and lodge doctor be boycotted by union labor men as they now boycott their own "scabs." Communistic medicine will no longer be profitable and such organizations will die of inanition, because cheap medical service to their members, the real reason for their birth and continuance, will have ceased to exist, and the passing of the lodge doctor will be heard in the refrain of "never more." Let them know that we have retraced our steps, that we have returned to the time when physicians had the respect of the community and did not debase the profession by becoming lodge doctors, who are compelled to make cooks, chambermaids, washwomen and menials of their wives, on account of giving their services for a mere pittance, debasing their profession to a rank lower than the scavengers. Then we who have maintained the faith and kept aloof from this flowing fountain of professional wealth and clinical study can say as in the past, the practice of medicine and surgery is an honorable occupation.

## ABDOMINAL INJURIES WITH SPECIAL REFERENCE TO EARLY DIAGNOSIS AND TREATMENT.*

By ROBERT T. LEGGE, M. D., McCloud.

The subject I have selected for this paper is a voluminous one and one of much interest to the emergency surgeon. It was brought before this society mainly for the purpose of the liberal discussion which should follow.

In reviewing some of the literature of the past five years, we note that a great deal has been written about trauma to special organs, but very little about the subject as a whole. It is somewhat humiliating to the careful observer to read in the newspapers and on death certificates, the cause of death due to internal injuries. This diagnosis is very satisfactory to the laity, as it is significant of fatal consequences but the surgeon demands a more exact statement. The general practitioner realizes that in bullet and penetrating wounds in the abdomen, an immediate laparotomy is necessary. Unfortunately this same opinion does not hold with regard to cases resulting from severe abdominal blows, such as falls, kicks by animals, being pinched between cars, struck by flying boards in sawmills, etc. It is the purpose of my paper to emphasize the importance of considering some diagnostic points, rather than to rely upon the classic symptoms which we are all familiar with and which develop late and precede serious consequences. With the experience of eight cases in my service, I wish to introduce the argument that all severe blows and injuries to the abdomen necessitate operative measures at the earliest moment, no doubting or so-called conservative treatment is permissible and no waiting for reactions. Time is most precious on account of the certainty of hemorrhage, soiling of the peritoneum by feces and by rapidly forming adhesions. When these are present you have text-book symptoms which are significant of great mortality. It is true that shock and collapse may appeal for delay but it must not interfere with the surgeon's duty. An aseptic exploratory laparotomy in a doubtful case, clears the diagnosis and is without danger. In my series of eight cases four were caused by planks flying back from saws in mill work, one by being caught in the bight of a cable in a logging-camp and three were railroad accidents. Of this number four were treated conservatively and all died, one refused operation and died, one which was delayed several hours in transit was too far advanced for surgical treatment and of the last two operated upon recently, one recovered and one died. Of this number verified by operation and by post mortem observation, four had ruptured livers and three torn intestines, one having both. Another case I could not verify on account of not being able to secure autopsy permission. In two of my fatal cases no external bruising was present and at autopsy the livers were nearly torn in two.

The early symptoms upon which a diagnosis is based are pain, which is constant, a weakened pulse, quickened respiration and tenderness on palpation. Shock may be present at the time of injury but is usually later. Rigidity and contraction of the abdominal muscles when an early symptom is due to the patient's endeavor to resist pain, but when found later is a symptom of peritonitis. Temperature is of no importance as in the majority of patients it is normal. If subnormal, hemorrhage and shock should be suspected.

* Read before the Pacific Association of Railway Surgeons, August, 1909.

The symptoms which follow in from one to twenty-four hours after injury are vomiting, which may become fecal towards the end, a weaker and faster pulse, thirst, pallor, depression, collapse and finally death.

Tympanites is rare as the time to produce such a condition is usually too short. If present it is mistaken for great rigidity. Percussion may reveal dull areas. These are due to accumulations of blood serum and fecal matter in the peritoneal cavity. The interpretation of the early symptoms as given, with a history of a severe abdominal blow, with or without signs of bruising, would be that either a ruptured intestine, liver, spleen or a grave hemorrhage had taken place. The later symptoms would corroborate the diagnosis, if neglected surgically. If a kidney was ruptured blood would be found in the urine upon catheterization.

When the bladder is severely injured, the pelvis is usually fractured, there is an urgent desire to urinate and an inability to do so. And a failure to find more than a minute amount of blood by use of the catheter, are special symptoms of bladder rupture.

From both operative and post mortem observations I noticed that in cases of blows above the navel, the liver capsule was superficially ruptured and in two cases the organs were nearly severed in two, both conditions producing severe hemorrhage. Owing to the anatomical position of the lower border of the liver being below the costal arch, this organ is ruptured more often than the protected spleen.

When the intestines are severed or ruptured, it is due principally to the force on the anterior belly wall compressing the viscera against the angle or promontory of the sacrum. This theory is verified by E. W. Andrews in the *Surg. Gyn. & Obstet.*, June, 1906, who further states that it is directly opposed to any bursting theory from internal pressure of the gases or fluids in the lumen of the gut.

The mesentery and the omentum are often injured and are prone to produce bleeding from torn vessels. In most cases it is a noticeable fact that the omentum rushed to the aid of Nature in the reparative processes wherever the pathology is centralized. This observation is not only a reliable guide and time saver, in making the exploratory diagnosis but it should be utilized to direct the surgeons' use of the omentum to cover over the injured organs after the repairs have been completed. First, on account of the great lymphatic drainage it affords thereby combating infection. Second, for its adhesive properties whereby it seals denuded areas and checks leakage from intestines.

Treatment (briefly outlined). I wish to reiterate that an aseptic laparotomy is the only treatment for these injuries. It is imperative even in doubtful cases. The history is sufficient evidence for its necessity. The earlier it is accomplished the better, for when delayed, peritonitis always results and consequently the life of the patient is sacrificed. The anesthetic to be used in these cases should always be morphin with a minimum amount of ether. If a bruised area is visible a large incision over this site, or in the median line either above or below the umbilicus should be made as the conditions indicate. When the peritoneum is opened note whether gas, bloody serum or feces emanates. This point will give a clew as to whether a bowel or other organ has been damaged. Carefully, gently and rapidly eviscerate loop after loop of intestine in search of a ruptured bowel and bleeding mesentery. At the same time have an assistant keep up a steady flow of hot normal saline solution 110° from a pitcher or by Andrews' method, playing on the bowels and into the peritoneal cavities. This process not only washes out the cavities and cleanses the viscera but it stimulates the pulse and overcomes shock. The intestines which are out of the abdominal incision must be wrapped and carefully protected. The mesentery and omentum are carefully and rapidly inspected for tears and bleeding vessels which are tied and sutured with fine catgut. As speed is essential for an enterectomy in such injuries, I believe in the use of the Murphy button, but in cases of rupture of the intestine or other hollow viscera, a continuous through and through suture of linen is the best, using one needle but upon returning Lembert the continuous one by burying it. This method is a safe and rapid one and is the best substitute for time consuming procedures. In replacing the viscera, cover the injured organ wherever it can be performed with the omentum, for reasons already stated. Rapidly palpate and inspect the stomach, liver and spleen.

In my series of cases all but two had torn or wounded livers. Signs of blood is the first evidence of this condition. In injuries of either the liver or spleen the great difficulty met with is to control hemorrhage, which is usually severe and which when neglected will prove fatal in from one to twenty-four hours. They being semi-solid organs with immense blood supply, a slight tear of the capsule will cause alarming hemorrhage. If the wound is only capsular it can be sutured with fine catgut, using a fine intestinal needle, and by either mattressing or by a continuous suture, superficially close the rent. In very large tears or wounds in the hepatic tissue, endeavor to pick up and ligate vessels with catgut, then pack with gauze and suture by Kousnetzoff and Pensky methods, which consist of using a large, blunt-pointed needle, threaded with a heavy ligature. The needle is wriggled through the liver, so as to escape vessels in the soft tissue, from side to side, and tied. The gauze is allowed to protrude through the abdominal wound until ready to remove. These principles can be applied to spleen injuries as well, but if the organ is severely damaged a spleenectomy is indicated.

The question of drainage must be considered in most cases and when it cannot be dispensed with, the split rubber tube with gauze lining gives the best satisfaction; this should be made through a suprapubic opening to the lowest part of the pelvis. The after treatment is of importance on account of the liability of shock, loss of blood and the threatened peritonitis. The Fowler position should be maintained and Murphy's proctoclysis instituted at once,

to be kept constantly in use for several days. For pain heroin should be used only in extreme cases, the light abdominal ice bag being preferable. When shock or collapse is present the intravenous administration of adrenalin chlorid is the drug par excellence to increase blood pressure by tightening the vessels throughout the body, arteries and veins alike.

During the operation and after the same the patient must be protected from undue exposure. The use of the hot water mattress as suggested by Crile or the placing of hot water bottles around the patient before and after the operation will aid in the prevention of shock.

For ileus turpentine enemata combined with the hypodermic injection of physostigma is without question the ideal treatment.

*Summary.* All severe blows in the abdomen signify immediate surgical treatment. A history of a blow, constant pain, a weakened pulse, shallow respiration, tenderness on pressure with or without vomiting constitute the early important symptoms. External bruising is often absent and its presence does not indicate the severity of the internal damage.

### Discussion.

Dr. O. D. Hamlin, Oakland: With regard to the abdominal exploratory incision for traumatic injury I think it is wise and ought to be done whenever the injury is sufficient to warrant it. Cases ought to be watched because during the period of collapse it is impossible to say just how bad the injury is. A case should not be watched for 48 hours for 2 or 3 hours will give a good idea of the condition.

Dr. Karl Kurtz, Los Angeles: I agree with regard to the early diagnosis of these cases and especially as to the early operation. I should like to report a case which I saw before leaving home which occurred at Mojave. I did not see the case until thirty-six hours after the accident. A train had been allowed to get away and had run down a mountain side colliding with a switch engine. The engineer of the runaway was thrown or fell from the cab, striking on the right side, and was found lying in a ditch. He was brought to Los Angeles and seen by Dr. Morrison on the night of the 25th, complaining of severe pain in the abdominal cavity. Upon examination an extensive bruise was found over the right kidney posteriorly. The patient's condition became worse and I was called the following morning. The pulse at that time could not be felt at the radial and respiration was about 40. The nurse stated that he had passed a stool with some blood; he was catheterized but no blood was found in the urine, abdomen was very distended, rigid and extremely painful to touch, especially over the right side. The history of the case, together with the presence of blood in the stool led me to make a diagnosis of ruptured bowel. Although the patient's condition was very low it was decided to operate at once.

About 5 feet of the lower portion of the ileum was distended and discolored. On removing that portion of the bowel from the abdominal cavity numerous perforations varying from the size of a pinhead to a dime were found in the area of discoloration. The most remarkable feature of the case was the extensive trauma of the mesentery. It had been stripped from the bowel for a distance of about 3 feet. I made a resection of the entire area of discoloration, uniting the healthy cords of the gut with the Murphy button. The case is interesting because it shows that extensive abdominal injuries may occur with but few marks of external violence. Had the patient been seen early enough and a correct diagnosis made, his life might have been saved.

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## DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to progressive pharmacy, to the United States Pharmacopeia and National Formulary Propaganda Movement and to the New and Non-official Remedies of the Council on Pharmacy and Chemistry of the American Medical Association.)

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## THE REVISION OF THE U. S. PHARMACOPEIA.

By A. L. LENGFELD, M. D., San Francisco.

The official recognition of the U. S. P. by the enactment of the Pure Food and Drugs Act, June 30th, 1906, and the signing of Protocols by our Diplomatic Representatives with those of other Powers "respecting the unification of Pharmacopeial Formulas" as well as the increased legal importance and enlarged field of usefulness of the Pharmacopeia, have created an unusual interest on the part of manufacturers, pharmacists and physicians in the approaching revision. Of the many matters of importance which the convention must consider and act upon, the following have created the greatest discussion, have aroused the greatest diversity of opinions and are of the deepest interest to physicians.

*Admissions.* Shall only the drugs, chemicals and other remedies suggested by physicians be admitted? or shall the very much larger number used by the general public and in the manufacture of the various foods, drinks and condiments be given recognition?

The object of the Pharmacopeia is to furnish "official standards" to give us "uniformity"—uniformity in quality, in purity and in medicinal strength, and to give "official tests" so that the identity, the purity and the quality can be easily verified. The Pharmacopeia then becomes what it should be and what it was intended to be, a "work of standards" only, and the mere admission of a drug or chemical would *not* mean an official recognition of its merits.

The Pharmacopeia is the official standard recognized by all the departments of the government having to do with foods or drugs, as well as by the national and the state food commissioners. Under these circumstances the *larger* the number of drugs admitted the *smaller* will be the number of adulterated or poor drugs found on the market, and the greater will be the protection to the physician and to the public. Even if many of the numerous drugs, etc., so admitted be only used by the public as "family or household remedies" or by the manufacturers of articles of diet, they, at least, will always be of uniform strength and of superior quality.

*The National Formulary.* The various thera-

peutic mixtures and compounds and such of the newer remedies as are still in the experimental stage should be omitted from the Pharmacopeia and placed in the National Formulary. The National Formulary, also officially recognized by the United States Government, should be the joint work of physicians and pharmacists working through their national organizations. With more elastic and less stringent requirements than those demanded by the U. S. P., all remedies whether simple or compound, new or old, ephemeral or permanent, if used by physicians could be admitted. The Pharmacopeia would then be the "work of standards" for the cruder and simpler drugs and their galenicals, while the National Formulary would give reliable, trustworthy and uniform preparations of the same for the physician's use. The Pharmacopeia would be the book for the manufacturer and pharmacist, while the National Formulary would be the book for the physician, whether merely used as a textbook in the college or as his work of reference when in practice.

*Revision.* With the Pharmacopeia as a mere "work of standards" containing *all* the principal drugs and chemicals used in medicine, as well as their galenical preparations, more frequent revision becomes unnecessary. A Pharmacopeia is not intended to lead in introducing new remedies and we all know that comparatively few remedies of value are discovered in a decade.

If, however, only such remedies as physicians suggest and endorse and which the committee on revision approves are admitted, then with the limited number of drugs so admitted far more frequent revision is essential. As new discoveries are made, new medicinal properties of remedies discovered and the value of worthlessness shown of the uncertain and doubtful remedies so frequently admitted through the enthusiasm of influential experimenters, more frequent revision is imperative.

*Doses, Antidotes, Incompatibilities.* As the U. S. P. was never intended to be a work on therapeutics or on toxicology, all reference to these subjects should be omitted. By omitting doses the time necessary to make the scientific investigations, so as to authoritatively state them, is saved and the prescriber is left free to use such doses as his experience and his judgment dictate.

*Strength of Preparations.* While an effort should be made to comply with wishes of our government in the matter and an effort made to have the strength of all pharmaceutical preparations comply with or approach the standard of the wished for and partially completed International Pharmacopeia, radical changes must be avoided. Changes are frequently unfair to the physician and dangerous to the public. Change of strength, the addition of new ingredients or the leaving out of others not infrequently nullifies the work and experience of years and in the case of active drugs may cause undesirable results or even poisoning.

*Conclusion.* Briefly stated, these are the principal subjects of interest to physicians about which opinions differ and about which the views of our state society should be expressed.

## SOCIETY REPORTS

### SAN FRANCISCO COUNTY.

The regular monthly meeting of the San Francisco County Medical Society was held May 10, 1910, at 8:30 p. m. The scientific program was as follows:

I—Case of Perforated Duodenal Ulcer. Lewis W. Allen.

II—Cesarean Section Under Local Anesthesia, With Report of Two Cases. Reginald Knight Smith and Jacob Schwarz.

III—Tuberculosis as an Etiological Factor in Extrauterine Pregnancy. A. Miles Taylor.

The following were duly elected to membership: H. S. Moore, Arthur Beardslee, Martin E. Simon, Walter G. Harder, Oscar Tobriner, Thurlow A. Miller and L. Eloesser.

A special meeting of the San Francisco County Medical Society was held Tuesday, June 7th, at 8:30 p. m. A very large audience was present to greet Professor Magnus Levy of Berlin, who honored the Society with an address on the "Dietetic Treatment of Oedema."

### SONOMA COUNTY.

The Sonoma County Medical Society held a most interesting meeting in the offices of Dr. J. W. Clark of Santa Rosa, on Friday evening, May 13th. The feature of the meeting was the splendid paper presented by Dr. Wallace I. Terry, of San Francisco, on "Surgery of the Blood Vessels," which was received with enthusiasm and appreciation. At a late hour the medical men adjourned to the Bismark, where light refreshments were served.

The next meeting will be held at Windsor, with Dr. J. W. Scamell as host, at I. O. O. F. Hall. Dr. Henry Harris, assistant professor of medicine at Cooper Medical College, San Francisco, will address the Society on "The Heart—Some of the Newer Methods of Study and Treatment."

A most instructive evening is anticipated, and a large attendance is expected.

At a recent meeting of the Board of Supervisors of Sonoma County, Dr. S. S. Bogle was instructed to start a training school for nurses at the County Hospital near Santa Rosa.

Several Santa Rosa physicians were selected to give a series of lectures, twenty to each subject, for the year.

Following are the names of those who will lecture and their subjects:

Dr. F. O. Pryor, Practice of Medicine.

Dr. P. A. Meneray, Obstetrics.

Dr. Elizabeth Yates, Diseases of Children.

Dr. Jackson Temple, Materia Medica and Therapeutics.

Dr. J. W. Clark, Anatomy and Physiology.

Dr. S. S. Bogle, Surgery.

The Sonoma County Medical Society held a most interesting meeting with Dr. J. Scamell, at Windsor, on Friday evening, June 3, 1910. Dr. Henry Harris, of San Francisco, was present, and presented a paper, "The Heart—Some of the Newer Methods of Study and Treatment." Synopsis:

I—Anatomical and Embryological Features of the Human Heart.

II—The Physiology of Heart Muscle in Its Newer Bearings.

III—The Newer Graphic Methods of Study—Rate, Rhythm, Extra Systales, Contractile Disturbances, Partial and Complete Heart Block.

IV—Blood pressure, maximum and minimum, and pulse pressure, and the bearing of the latter on urinary secretion. High blood pressure as a compensatory factor in Chronic Interstitial Nephritis. Its diagnostic import.

V—Newer views as to Treatment—directed particularly to the heart muscle. Action of the Digitalis group of drugs, especially on heart tone. Intravenous injection of Strophanthin. Attempts at reduction of high blood pressure. The diuretics theocine and diuretin.

After the meeting a banquet was served, completing a very enjoyable and instructive evening.

JACKSON TEMPLE.

## BOOK REVIEWS

**Diseases of Children.** By Abraham Jacobi, M. D., L.L. D. Member American Medical Association, American Pediatric Society, Association of American Physicians, etc. An authorized translation from "Die Deutsche Klinik" under the general editorial supervision of Julius L. Salinger, M. D., with thirty-four illustrations in the text. Published by D. Appleton & Co., New York and London. 1910.

One hesitates in writing a critical review either favorable or unfavorable upon a book to which Jacobi has added his illustrious name, because it is universally conceded that any work with which the father of American Pediatrics is associated is by virtue of this very association commendable.

In glancing at the list of contributors, one is immediately impressed by the fact that practicaly all of the leading German pediatrists have been included, but it is to be regretted that one or two of the best known have been omitted.

It is naturally only a matter of personal opinion that voices the regret that Finkelstein, after his very capable research of the past decade, should not have included in his contribution the dietetic side of Pediatrics upon which subject none in Europe is more competent. Zappert likewise might have contributed an article on the nervous disorders of childhood to very great profit to the readers. If the book had no other worth, however, than that Heubner presented the chapters on scarlet fever, measles, and German measles and Czerny on the feeding of children, these facts alone would make the book worthy of publication and translation. In treating of the feeding of children Czerny of course presents a thoroughly German aspect of the subject and while one realizes that from an American standpoint this is not entirely practicable, still most of us would profit if we endeavored to combine certain of the German principles, especially those on infrequent feeding, with our own ideas. All reviews of German works deprecate the small quantity of antitoxin used in diphtheria and this one can be no exception to the general rule.

One is rather amazed to read a book published as late as 1910 and fail to find in it a detailed account of the Flexner serum treatment of epidemic cerebro spinal meningitis. No one advance in pediatric therapeutics stands out with quite the same prominence during the last decade as Flexner's achievement and failure to mention it almost makes the work antiquated before it is published. Dr. Salinger is to be congratulated on his very excellent translation, a task which is only too rarely duly appreciated.

E. C.

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**Diseases of the Bones and Joints.**—By Goldthwait, Painter, Osgood. Published by D. C. Heath & Co., Boston.

In an earlier review we said that Whitman's Treatise on Orthopedic Surgery would be our choice as a guide for a general practitioner who found himself compelled to care for his own orthopedic cases. We felt constrained to direct attention to what we considered grave defects of omission, however.

The book before us so completely covers these omissions that it might be thought to have been written to that end. Avowedly not a comprehensive treatise on orthopedic surgery, it comprises a series of studies of the commoner but by no means well understood chronic joint diseases. Much of what the authors have to say, especially in the consideration of those conditions miscalled the rheumatoid diseases, expresses the result of independent investigations conducted by themselves during the past two decades. "It has seemed best . . . to give a concise statement of such matters pertaining to etiology, diagnosis and treatment as has been found in the authors' hands to be helpful and satisfying to the patient and suggestive to the physician."

The earlier writers on orthopedic surgery all but confined themselves to a consideration of those conditions which produce deformities in early life. Orthopedics may to-day be defined as that branch of the healing art which occupies itself with the prevention and correction of deformities, and applies equally to children and to adults. A valuable feature of the work before us is the prominence it gives to those deformity-producing lesions which are peculiar to adult life. The following generalizations on the significance of the non-specific arthritedes appearing in adults reflect the elevated plane of thought in which the whole work is conceived. "Regarded from any view point, sufferers from these conditions make claims upon our consideration. Their bodily sufferings demand relief, if relief may be had; the incapacitation of an adult wage-earner results in economic loss to himself, to his dependents, and perhaps to the State. Certainly such considerations, if there were no others, should suffice to promote research into the causes of pathological processes competent to produce such results. Ordinary humanitarian impulses should prompt us to attempt their relief, and last, though by no means least of all, should we be appealed to by a sense of the importance of these problems to the State and to the future of the race." No physician can have been in active practice for a few years in California or in our sister States of Oregon and Washington without having had occasion to observe the frequency of the occurrence of the conditions classed by the laity as "chronic rheumatism"; nor can he, if at all able to analyze his results, have failed to comment upon the inadequacy, we might almost say fallacy, of the ordinary modes of treatment. To one who has had this experience, the book before us must prove a comfort and an inspiration to further effort. The chapters on these conditions alone should prove well worth the cost of the entire book. Had it not been our privilege to observe these conditions, through the courtesy of the authors, at first hand, we would have been glad to pay ten times the price for the illumination thrown upon an obscure group of disorders. Comforting as the book must prove to your orthopedic surgeon, however, its strongest appeal should be to the general practitioner. For "it is to those practitioners of medicine to whom sufferers from joint disease usually make their first appeal that these studies are offered."

J. T. W.

**Heart Disease, Blood-Pressure and the Nauheim-Schott Treatment.** By Louis Faugeres Bishop, A. M., M. D. Publishers, E. B. Treat & Co. 1909.

Seven years ago Bishop published the first edition of this book, calling attention to those types of circulatory disease charaeterized by marked changes in the blood-pressure. This, the third edition, shows that a simple, easily followed discussion of these important clinical conditions, unadorned by pulse tracings, etc., finds numerous readers. The entire work is so refreshingly simple as to lead one to the conclusion that it was intended perhaps as much for the patient as for the medical student or practitioner. The book is certainly of little value to the medical man at all versed in modern heart literature. R. B.

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**Diseases of the Skin.** By John V. Shoemaker, M. D. LL. D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia, Pa., etc. Publisher, F. A. Davis, Philadelphia. 1909.

The preface quite laudably expresses the demand for a fifth edition revised according to the decided progress made in this branch of medical science In such light the book will bear criticism, particularly insofar as consideration of late work is concerned as it falls short in that respect. The main text is of the ordinary and the arrangement is good.

The very limited space of less than three pages on X-ray treatment, out of nearly one hundred pages devoted to treatment in general, does not convey a clear working idea of radiotherapy. No mention is made of the use of carbon dioxide snow, which, since it was brought before the profession several years ago by Pusey, has become most useful to the dermatologist.

The author does not indicate the mastery of some of the other later exeellent methods of treatment as by vaccines, clearly shown in such a statement as "good results have been reported from the opsonic treatment of acute pustules and sycosis." He considers "opsonins for a disease, the cooked bodies of microbes." On this particular subject the discussion is entirely general giving nothing specific upon which the reader can acquire a working knowledge of this important subject.

Those who look for information on the commonly called Wassermann reaction in syphilis will be disappointed in finding one small paragraph on the "Diagnosis of Syphilis by Serum" without a single reference to those to whom the credit really should be given.

Many good points can be obtained from the book particularly from the excellent article on eczema. The treatment of syphilis is very well handled and evidently incorporates a great deal of the personal experience of the author. Lepra and Pellagra are also carefully considered. Absolutely no mention is made of coccidioides which fact would naturally lessen the work's value on the coast.

Repetitions and near repetitions are frequent occurrences; and no consideration for the reader's time is given.

If we consider the advice on diet an an indication of the author's experience in his home city, patients in Philadelphia with eczema must re-act differently to milk than here, as he recommends it as the most "general pabulum in all the protean varieties of eczema." There is no more trite observation than that of Hutchinson that eczema is most prevalent at the beginning and the end of life, just those times when milk is most generally used. A careful follower of the advice in the treatment of early psoriasis might easily be led to err by giving a "rich carbohydrate diet reinforced by plenty of cream and butter."

Throughout the book the author's modesty is apparent in that the text is so formed as to make the reader feel that he is not getting personal experiences but is geeting information on what others have done. One is impressed with the fact that it is unsafe to place too much reliance on things indefinite. What we need is the absolute experiences of others whether the results be negative or positive. Do we all practice as we tell others they should practiee? G. D. C.

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# NOTICE!!
## Medical Defense

To all Members of the Medical Society of the State of California.

You are hereby notified that this Society has undertaken to defend free of cost to its members all suits which may be brought against any member of this Society based upon any malpractice alleged to have occurred on or after the 1st day of July, 1909.

Any person hereafter joining his respective County Medical Society shall be entitled to the same privilege, but no defense of any action shall be undertaken for any malpractice alleged to have occurred prior to the date of the joining of the County Society by any member who may be so sued.

Such defense shall only be undertaken by this Society during the period that the member being sued is in good standing and dues fully paid, and the Society reserves the right at any time to abandon any such defense if a member shall cease to be in good standing or his dues become due or unpaid.

Any member who may be served with any papers in any suit involving a claim for damages for malpractice shall, within two days after the delivery of the same to him, transmit them, or a full, true and correct copy of the same by registered mail, postage fully prepaid, to the Secretary of the State Medical Society at the Butler Building, San Francisco, California, and a failure so to do shall relieve the State Society from any obligation to defend or any liability for default. Any member so sued shall see to it that no default is entered against him until the attorney for the State Medical Society shall have had an opportunity to communicate directly with him. As soon as practicable thereafter, any member who may be sued shall transmit to the Secretary of this Society a statement in writing of all the facts having any bearing upon the case and must agree at all times thereafter to furnish any information which may be requested by the Society or by its Attorney. The General Attorney for the Medical Society of the State of California is W. W. Kaufman, 1303-1304-1305 Humboldt Bank Building, San Francisco, California.

When a local attorney is to be selected to take charge of a case in the county in which the same may be commenced, he shall be so selected by the joint action of the defendant, his County Medical Society and the Attorney for the State Medical Society.

If they cannot agree upon a local attorney, the defendant shall have the right to select such local attorney as he may desire and the State Medical Society shall contribute such an amount to the compensation of such attorney as may be selected by any defendant as the local attorney selected by the attorney for the State Medical Society would agree to perform the same work for.

The services of the said attorney shall be without charge to any member of the Society, and if the Attorney for the State Medical Society, the defendant, and the County Society can agree upon the local attorney, his compensation shall be without any cost or expense to the defendant.

At the time of transmitting any papers served upon a member, or copies thereof, to the Secretary, such member shall immediately sign and transmit an authorization substantially as follows:

"I, the undersigned, do hereby authorize the Medi-

cal Society of the State of California and W. W. Kaufman, as Attorney for said Medical Society of the State of California, to undertake the defense of an action brought against me by (here insert name of plaintiff), in the Superior Court of the County of (here insert name of County), on the (here insert the date of summons), free of any cost or expense to me and in accordance with certain resolutions passed by the Council of the Medical Society of the State of California."

It is the belief of the Council of the State Medical Society that the scheme which it has undertaken will be extremely beneficial to its members. Convinced as we are that the vast majority of these cases are conceived in blackmail, we are satisfied that litigants and their attorneys who know that behind the defense of any practitioner who may be accused of malpractice is the entire State Medical Society, together with attorneys whose fees are paid by the Society, that that fact alone will cause any person to hesitate before commencing an action.

We are led to believe that doctors sometimes pay a small sum of money to avoid these claims, upon the theory that they would have to expend that much for the fees of an attorney to defend a suit. This encourages a very bad practice and we believe that the present plan of the Medical Society of the State of California will do away with it.

C. G. KENYON,
Chairman of the Council.
PHILIP MILLS JONES,
Secretary.

## ILLNESS OF DR. KING.

Dr. John C. King, of Banning, the President of the State Society elected at the Sacramento meeting, has been seriously ill and was operated upon in the California Hospital, Los Angeles, by Dr. Granville MacGowan. He is recovering slowly but surely, at the time of writing, and while his condition was for a time very serious, his many friends will be glad to know that all danger is passed and that he will recover.

## NOTICE.

The California State Nurses' Association will hold their sixth annual convention in San Francisco, at the California Club, on the 2nd and 3rd of August, 1910.

President, Mrs. A. B. Sox, 585 Cleveland street, San Diego.

Secretary, Miss E. M. Shuey, 2324 Carlton street, Berkeley.

## MEETING OF THE MEDICAL MILK COMMISSION OF CALIFORNIA.

A meeting of the Medical Milk Commission of California was held at the University Farm, Davis, on April 18, 1910.

This meeting was open to the public and was attended by about 75 persons who were interested in the production and sale of certified milk and who took part in the discussions.

The following milk commissions were represented: Alameda County Medical Milk Commission, Los Angeles County Medical Milk Commission, Santa Barbara County Medical Milk Commission, and San Francisco County Medical Milk Commission.

Previous to the regular program an opportunity was given the visitors to go over the University Farm dairy and creamery and view the work which is being done by this important department of the University. An exhibition of certified milk was held which was contributed to by the following producers:

1. Burrough Bros., Walnut Grove Dairy, San Jose, Cal.
2. The Ideal Farms, San Anselmo, Cal.
3. The Potter Dairy, Goleta, Cal.
4. E. F. Robbins, Arden Dairy, Pasadena, Cal.
5. H. R. Timm, Dixon, Cal.

After lunch at the University Farm dining hall the following program was presented:

1. Address of Welcome, Mr. Roger Roberts.
2. History of Certified Milk in California, Dr. Adelaide Brown.
3. Demonstration of the Tuberculin Test in Cattle and Physical Examination of Infected Cows, Dr. C. M. Haring, Dr. Walter Bates.
4. The Milk Production Problem, Professor Hopper.
5. Control of Bovine Tuberculosis in Certified Dairies, Prof. A. R. Ward.
6. Use of the Score Card in Dairy Inspection, Dr. Chester Roadhouse.
7. The Pure Milk Problem, Prof. F. D. Hawk.
8. Results of Some Investigations Concerning Bovine Tuberculosis, Prof. C. M. Haring.
9. Demonstration of the Organs of a Reacting Cow previously examined before the meeting, Dr. Chester Roadhouse.

At six o'clock the delegates and visitors assembled for dinner at the University Farm dining hall, after which an informal discussion was held of various topics of interest to medical milk commissions. It was decided that the Medical Milk Commissions now certifying milk in California should form an association to be known as the Association of Medical Milk Commission of California for the purpose of cooperating with the Public Health Association, for holding public meetings of an instructive nature similar to this one and for furthering in every way the production and sale of certified milk. No officers were elected.

It is proposed to hold another public meeting of this Association in September in conjunction with the meeting of the Public Health Associations.

Respectfully,
LEWIS SAYRE MACE, M. D.
ADELAIDE BROWN, M. D.,
Executive Committee.

## PESSARIES WANTED.

So seldom are pessaries used nowadays, that there must be many practitioners who have on hand a mottly array of discarded rings. We are informed by those in charge of the Gynecological Clinic at Cooper Medical College, that contributions of pessaries are always welcome for purposes of demonstration and for use on clinic patients.

## NEW MEMBERS.

**Murphy, L. D.**, San Miguel.
**Moss, Robt. E.**, Riverside.
**Franklin, H. J.**, Santa Barbara.
**Gleason, C. D.**, San Francisco.
**Pinkerton, B. G.**, Los Angeles.
**Criley, C. H.**, Los Angeles.
**Battelle, E. L.**, Los Angeles.
**White, P. G.**, Los Angeles.
**Broughton, G. A.**, Los Angeles.
**Duffield, Wm.**, Los Angeles.
**Scott, A. J., Jr.**, Los Angeles.
**Caven, C. L.**, Los Angeles.

## DEATHS.

**Curnow, James R.** Died at Agnews, Cal.

Bell, Wm. T., formerly Decoto, Cal., (died at Lakeport, La.).

Bailey, Jos. G., Santa Ana, Cal.

**Bush, Camillus,** San Francisco.

**Simon, Jules A.** Died while traveling abroad (a resident of San Francisco).

# California State Journal of Medicine.

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All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

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## NOTICE!

The Register and Directory is now being compiled for the edition of 1910. We expect to issue it in August or September. Please help us to make it as accurate as possible by sending in NOW, any changes of address that have come to your attention. Don't wait a month or two and then send them in; send them in right away.

## EDITORIAL NOTES.

**ARBERRY AGAIN.**

Dr. J. J. Arberry, convicted of the crime of trying to obtain money by false pretense, last January, appealed the case and on July 11th the Appellate Court for the 1st District handed down a decision sustaining the verdict and judgment of the lower court. Judge Dunne, before whom the case was tried, was very careful during its conduct and the Appellate Court seems not to have found any errors that would sustain a reversal. For this we should be very thankful, and also to the attorney for the San Francisco County Medical Society, Mr. Walter Kaufman, who handled the case in a masterly fashion and whose time was almost given to the society for this work. At last the point has been raised and sustained that a physician may testify to certain conditions of an individual as matters of fact and not merely as matters of opinion. The reverse, which is an absurdity, has heretofore been held. In the decision the Court says:

"There is little danger of an honorable, upright physician being held to criminal account for a mistaken diagnosis; but where a dishonest physician has made a wilfully false statement as to a mortal disease solely with the view of obtaining money from the victim, the law should deal severely with such physician. We do not mean to even intimate by what has been said that the law will hold a physician liable criminally for a statement honestly but mistakenly made as to his professional judgment in regard to a disease. But the fact that one is a licensed physician will not be allowed as a cloak to shield him from all responsibility for statements wilfully made with the sordid view of obtaining the money of the unwary."

If more courts would take this same view of the relations of the physician to the public, and of the licentiate to the public, there would be a great deal less quackery rampant and there would be a larger respect for the medical profession in the public mind. Perhaps an era of change has come and quackery will be more persistently discouraged in the future than it has been in the past. We can only hope so—and continue to do what we can to convict the Arberrys of the medical profession.

**ANOTHER CONVICTION**

These are not propitious days for dishonest quackery. In January, J. J. Arberry was convicted, in San Francisco, of the crime of obtaining money by false pretense. In June, Dr. Herbert T. Thornberg was convicted, in Sacramento, of a similar offense. Arberry's case is now before the Appellate Court on appeal; what will happen in the Thornberg case is as yet uncertain, but probably it will be appealed as all these quacks have a large fund for their protection and defense. Thornberg's is a particularly gratifying case, for he was associated with or employed by the notorious Fer Don, an advertising, unlicensed quack, who has been a pest in this state for years. Over and over again has the effort been made to prosecute this quack; but his victims were shy, and he always has a licentiate with him for protection. This time they both went too far. A Mrs. Beck, the complainant, stated to the Grand Jury that Fer Don had guaranteed to cure her rheumatism for $200, and that Dr. Thornberg, said to be the partner of Fer Don, treated her. Indictments were returned against these two quacks, and on April 28th Thornberg surrendered himself; Fer Don disappeared and has not been located. Thornberg was tried by a jury in June, and, as already stated, convicted. The greatest difficulty encountered in proceeding against these criminals is found in the timidity of the victims; they dread the publicity that comes from exposure and a trial of the case in court. But possibly, now

that it has been made evident that convictions may be secured, victims of other quacks of this kidney may be apprehended. Certainly it is encouraging to have secured two such convictions in six months. Other matters of great interest are nearing completion in the legal department of the Board of Examiners and developments may be expected before long. In Oakland, a notorious quack, one Bohanon, was recently convicted and fined, and others will be put out of business very soon.

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THE VALUE OF DRUGS

Healing cults rise one after another, some to attain vogue for a little space and to die, some to make a more enduring impression. That they arise and that some of them endure is testimony that they meet some need of modern life. Healing cults, proprietary remedies, patent medicines. In spite of increasing intelligence throughout the land and in spite of well organized opposition from the medical profession, osteopathy, naturopathy and christian science do not recede in influence and the jingling streams of gold flow in ever increasing volume to the coffers of Viavi and Cardui. That these things are true is certain evidence that medicine is not fulfilling all its true functions; that the medical man is not "delivering the goods." In our enthusiasm for the Science of medicine we are apt to forget that the end and aim of our profession is to relieve suffering and to master the art of healing.

John Smith, in distress and therefore unable to feed his children, wants quick relief from pain and rapid return to earning capacity, so he summons a doctor; but from his doctor he wants more than this, he wants insight, an instant appraisement of the particular moral and psychic problems that John Smith's illness brings to him. He demands a medical handicraftsman, one skilled in the art of relief, that art to which scientists working in the laboratory or in the clinic have brought so many new facts that it is to-day twofold more powerful than it was a decade ago.

There is no more curious fact to be noted in medicine than that during the very period of cult expansion and expansion of proprietary and patent remedies, the therapeutic nihilist has arisen and waxed mightily in the profession. He has gained so much influence that a large proportion of our younger men consider it quite the thing to disavow a belief in the efficacy of drugs. They are ill-taught in clinical therapeutics, for this branch has little place in the curricula of our schools, and the result is that after a few months' practice they resort to the wide-spreading blunderbusses the detail man leaves on the office table; that is one result; and the weaning away of patients who flock to support this or that, of the so-called health movements, is another.

Therapeutic nihilism, indeed. Let one who disbelieves in the efficacy of drugs watch beside the bed of a loved one racked and torn with pain and there learn the blessing that a wisely administered injection of morphin may become, or let him see the waterlogged, shapeless body of a father or brother grow shapely and fair again under the magic of digitalis or diuretin, or see a dull, mindless cretin, born to some of his own, by virtue of thyroid extract, become an active, normal child. Let him see these things and a hundred more that drugs can do; let him learn what drugs have done; let him master his pharmacopœia and his clinical therapeutics, and soon health cults and vendors' cures will die out and cease. L. P.

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## THE WASSERMAN TEST FOR SYPHILIS IN PRACTICE.

It is generally conceded that the discovery of Wassermann's test for syphilis denotes immense progress in our knowledge of that disease; but as experience accumulates, misgivings arise in regard to the extent to which we may trust the verdicts of the test in practice. Dr. Freudenberg recently expressed before the Berlin Medical Society the state of mind into which he had been led by certain occurrences in his practice and exemplified the necessity for caution in accepting the results of the Wassermann method by relating a case in which he had sent a specimen of the patient's blood to a laboratory designated as B. The answer was returned that the result was positive. Three days later laboratory D reported that the result was negative. After another interval of six days blood was again withdrawn, the quantity divided into four parts and distributed among laboratories B, D, C, and E. B, who had formerly reported positive, now reported "doubtful, probably negative." D, who six days before had reported "negative," now reported "positive," and C and E both announced negative results. The clinical course convinced Freudenberg that the lesion which had been the occasion of these tests was not syphilitic.

Freudenberg's communication elicited from others a recital of their experiences: there were instances of contradictions in the reports, doubts made deeper, confusion confounded, but also startling confirmation of the significance of the method. Isaac, who had tested the Wassermann reaction in over 5000 cases, said that caution was necessary on account of our defective knowledge of the nature of the reaction and also because of the different ingredients employed by investigators. The peculiarity of the reaction was illustrated in the case of a young man who applied for treatment for acute gonorrhea; this young man had never had syphilis, and his blood was to serve as a negative control, but the reaction was positive and continued positive on several repetitions of the examination, al-

though he bore no traces of recent or old syphilis. Finally, three weeks having elapsed, a small ulcer was found in the coronary sulcus, which soon became indurated, whereupon the reaction suddenly turned negative and remained negative until the appearance of the rash, when it again became positive.

Wassermann himself then participated in the discussion and protested against ascribing the conflicting or confusing results to the method of serodiagnosis as such. The numerous hospitals for which the tests were made in the Wassermann laboratory had no complaints to make of fallacious or capricious results. He recognized only one Wassermann reaction, that one which was performed strictly according to his directions and with the reagents recommended by him. He had purposely guarded against making the test too sensitive, contenting himself with positive results in 98% of syphilitic individuals; for if too sensitive it might occasionally have branded a non-syphilitic person as syphilitic. Such a slight inaccuracy in the method was deemed harmless, for there had never been any intention of eliminating the physician himself from the solution of the diagnostic problem.

It seems a well-warranted conclusion that the Wassermann reaction, if properly carried out, is of great service in practice. But the reagents are difficult to procure, if the requirements of the original method are to be satisfied, and the test is complicated. It is incumbent upon the practitioner, before acting blindly on the results reported to him from a laboratory, to inquire into the method employed. He will best inform himself as to the trustworthiness of the answers given to his questions by correlating the laboratory findings with his clinical observations in as many cases as possible. Ultimately the agreements or disagreements must show him where to put his faith.

## THE ST. LOUIS MEETING OF THE A. M. A.

That the St. Louis meeting of the A. M. A. was a success, goes without saying, and the fact that the attendance was below that of Chicago, two years ago, or that of some of the Atlantic City meetings does not in the least lessen the success. There is the highest authority for the statement that if a few are gathered together in the right spirit success is in their midst, and here there were many times a few. St. Louis itself is not the best arranged city for such a gathering. The meeting halls are all at a considerable distance from the hotels, necessitating long street-car trips, and the opportunities for getting satisfactory lunches in the neighborhood of the halls are few, but even in spite of this we went to the meetings and no one starved. The weather was propitious. Many had feared a hot wave, but instead we had cool and rainy weather, and those of us who do not often see good old fashioned thunder storms had one for a special treat. It surcharged the Missouri river and washed out a few bridges, while some cyclones and whirlwinds unrooted a number of buildings and nearly blew down the granite-built state penitentiary, just to show visitors from the earthquake belt that the middle west is not wholly asleep by the banks of her big waterways.

It is impossible for one individual to speak of the work of all the sections—therefore this résumé must be limited to one, or to two at the most. The one is the surgical section, the second is the pathological.

It can be said at once that there was no great paper presented unless it was that of Crile regarding hyper-thyroidism and the treatment of the enlarged thyroid with the symptom complex of Basedow's disease. It is not within the function of this article to review the substance of the papers presented and so this mention must suffice with the advice that the paper be read as soon as it is published, for it offers a new view point of the etiology, pathology and treatment. Rodman's paper on carcinoma of the mamma was notable both because of his insistence on the need of a frozen section diagnosis in each case before operation, and also because he had presented a similar paper at the American Surgical Association a month before. If the matter had not seemed to him of great importance he would not have repeated his advice so soon. Grant's paper on Nerve Anastomosis, Sherk's on Abdominal Injuries, Ely's on Tuberculosis of the Adult Knee Joint, Bevan's resurrection of Suppurative Peritonitis, are all worthy of careful study. Finally the special paper of the session, the Oration on Surgery, by Abbe, of New York, gave a very fair and full exposition of what is known about and can be done with the master riddle of modern chemistry, Radium. That Crile should be selected to be chairman and Bottomly, secretary, suited all and Los Angeles will have a surgical treat when this, the largest and most catholic surgical association of the United States, meets there next year.

It may not be a malapropos, even at this time, to express the hope that a suitable hall or auditorium shall be available in Los Angeles. Many of the men who have the best things to-day do not show custom in speaking in public rooms of large size, and either speak too low even for those with sharp ears, or else address their remarks to the chairman alone. A proper lectern should be provided, situated at the best point for easy speaking to the audience, so that all may hear, and those who discuss the papers should be in the same or an equally well situated place. It seems a pity, too, that telephone messages for members in the audience should have to be constantly announced on the stage, but if it *is* a positive necessity, it should be arranged for so that the announcement may be made with the least annoyance of those who are listening to the papers or discussions.

The symposium on Cancer in the section on Pathology and Physiology was interesting and all of the papers should be read. All the viewpoints about cancer were occupied and by such men as Loeb of

Philadelphia, Levin of New York, Tyzzer and Mallory of Boston, and Weil of New York. Mallory's photomicrographs, enlarged on the screen, are marvels of accurate presentations of morphological conditions. Finally the surgeon pathologist, Bloodgood of the Johns Hopkins Hospital, closed the symposium with a paper on the results of surgical treatment of various types of carcinoma.

The whole group of papers will give a good exposition of the cancer question as it is thought of to-day and as it is being studied.

In the same section the experimental work of Eisendrath and Straus, of Chicago, on Experimental Ischemia of the Kidney was of practical value to the surgeon, while the studies of Robertson and Chelsea of Minneapolis, on the unsolved problem of the Bachteriology of Acute Anterior Poliomyelitis is of especial interest because of the pandemic of that disease in the United States during the last ten years.

The surgical section was quite satisfied that one of its prominent members—who might perhaps be called one of the teaching members of the section—should be chosen to become President of the Association. John B. Murphy, of Chicago, merits the honor and as a surgeon is a fit successor of Welch, the pathologist, and Gorgas, the sanitarian. The duties of a president are, no doubt, to a great extent perfunctory, but with the stimulus of this honor it is not unreasonable to expect that President Murphy, as head of the medical profession in America, during his incumbency of the high office, may attack and solve some other hard problems in surgical therapeusis, and add to the measures which must always be called by his name.

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## EMPYRICISM VS. RATIONALISM IN SURGERY.

The average man is sometimes a trifle disinclined to think for himself. He has a good memory and readily learns, parrot-like, the technique of operations. He thinks of operations by the names of the men who described them, rather than by the principles involved and their relative advantages and disadvantages, and proceeds to perform these operations as *set procedures*. He is afraid to leave the beaten path and dare not allow his mind liberty to scheme an operation to suit the case, but instead must do an "Alexander," a "Bassini" or a "Tuttle." He deadens his mechanical sense and is a copier. He uses just such a drain, some certain suture material or a certain chemical in the dressing, not from a knowledge of the various kinds and a judicious selection, but because some other uses it or that he is accustomed to it. Like the theological student, his armament is built on faith. This, of course, does not apply to our many progressive surgeons, but more to the average man who does surgery.

Just as it is better and more rational in prescribing to compile a prescription to suit the case, based on the action of the individual drugs, than to rely on the mysterious healing effect of some worshiped prescription, so in surgery, it is better to learn the principles and processes in the repair of tissues and the effects of different procedures on the physiology, pathology and repair. Under this guidance the work may be done unhindered by convention and with a surety of result.

If the surgeon views the patient always from the physiological standpoint, the measures possible for mending him will always be apparent. For instance, if in a plethoric obese woman in the Trendelenburg position the pulse should become impalpable, the surgeon instead of simply giving stimulants, will understand that the flabby heart has become gorged and has dilated, and he will immediately put the patient in the head up position to drain the blood from the heart, cause the heart to contract down by both cardiac massage and a hypodermic of digitalin and give artificial respiration. If the patient for operation be moribund from shock, the surgeon who understands the principles involved will probably carry him through the operation successfully. He will increase the blood pressure by bandaging the limb, tipping the patient head down and transfusing additional blood into him. He will then operate quickly to minimize the time of anesthesia and deftly to avoid trauma to the tissues. He will use an anesthetic which does not add to the shock, such as a local one or nitrous oxide and oxygen, and in operating will do as little as possible but just enough and of the right things to allow the patient to heal himself.

A well-balanced judgment is a rare gift and it seems that the one idea man is the more numerous. How often do we see a man putter around in the abdomen for hours, bent on super attention to all details, with a total disregard to duration and amount of trauma and the effect of the anesthetic on the patient. Another may devote all his attention to speed, consequently spilling intestinal contents through the abdomen, allowing excessive hemorrhage and crudely adjusting the tissues. One will use silk ligatures, thinking only of the small knot and forgetful that insoluble ligatures give trouble. Another applies a strong disinfectant to the wound to kill germs and disregards the injury it does to the tissues.

The same operative procedures are done in different parts of the country in many different ways and with different materials, but with much the same results. There are, however, just a few underlying principles that are common to all these methods, and the wise surgeon considers these only and adopts the simplest and most efficient methods for their attainment.

The three ways which seem best suited for furthering the progress of surgery are the following, and each is necessary to supplement the others:

First. Careful attention to the development of diagnosis.

Second. The compilation of the clinical courses of thousands of operative cases into statistics, and from these selecting the procedures that give the best results and adopting them. This is exemplified by the Mayos.

Third. The constant trial of new principles and ideas developed from consideration of physiological principles and the consigning of all unsolved problems or clinical failures to the laboratory to be worked out. This method is typified by the work of Crile.

## ORIGINAL ARTICLES

# THE ESSENTIALS OF SURGICAL DIAGNOSIS WITH REFERENCE TO FRACTURES.*

By T. W. HUNTINGTON, M. D., San Francisco.

It is obvious that end results associated with fracture treatment give quite too large a percentage of faults, deformities and impaired function. Such conditions take a wide range between moderate shortening, slight angularity and alteration of axial relations; to non-union, positive limp, persistent pain and joint ankylosis of varying extent.

In the conduct of fracture cases, the first exaction is to determine, as accurately as may be, the nature of the lesion and to weigh its importance from the standpoint of immediate requirement. But though the lesion be never so obvious and the necessity of immediate attention be clearly urgent, the attendant is, at once, confronted by the more laborious task of perfecting a diagnosis at the earliest possible moment. Routine steps having been taken to insure the patient's comfort and safety, a painstaking review of every feature of the case becomes a matter for serious consideration. First impressions must be revised, early opinions are to be checked up and perhaps abandoned, while collateral or pre-existing conditions are to be recognized and their full value assigned.

At this juncture, immense advantage is to be derived from a carefully written case history, and it may be said that a clear perspective of a clinical picture cannot be acquired and made available without it. In this undertaking a well-defined scheme should be followed scrupulously. During the early hours of an undertaking a mere skeleton should be formulated; this to be rewritten and fully developed, when convenient. Every collateral detail should be worked out and recorded, and no incident having a bearing upon the case, should be omitted. By this means, opportunity is afforded for the correction of errors of commission, while errors of omission, often the forerunner of disaster, are avoided and the patient's welfare conserved in large measure. Even in injuries of lesser magnitude, a written record is often of great value where later developments pointing to occult conditions become ultimately manifest. As a matter of personal discipline, it will be found that the surgeon, himself, derives an appreciable advantage from the careful study of routine cases from this point of view.

While in certain cases a permanent abnormality is inevitable, being inherent in the given lesion, it is nevertheless beyond question that some of the humiliating incidents springing from broken bones can be modified or entirely obviated, by an accurate knowledge of initial conditions. Joint fractures, notably those of the elbow and ankle, are clearly in evidence, while obdurate, complicated fractures of long bones are of frequent occurrence.

There is a growing sentiment among surgeons, and to a certain extent among the laity, which stands for anatomical reposition, or a close approximation thereto, as the criterion for fracture treatment. Moreover, emphasis should be laid upon the fact, that in exact ratio as the standard for results becomes elevated, the surgeon's moral and legal responsibility is augmented.

If this doctrine be accepted, the logical exaction is for a diagnosis which is beyond question at the outset, and which can be verified during the process of repair.

Is this a reasonable exaction for the routine work of the average surgeon? If this query be affirmed, it is clearly manifest that the attitude of attendants must conform to the added burden thereby imposed. Any policy that suggests or tolerates time-serving or chance-taking must be abandoned and all the sidelights afforded by official aids or methods of precision must be thrown upon the situation.

The natural inference is that the mere discovery of a broken bone and the recognition of deformity or of various complications is but an introduction to the greater task. The genius of diagnosis lies in such interpretation of the pathology of the lesion as will suggest a rational policy for relief; and it may be added that the best validation of a diagnosis is the nearest possible approach to an ideal result.

In recent years, the X-rays have simplified the work of fracture diagnosis and it is a matter of some little surprise that an aid so nearly infallible is not appealed to more frequently. But more surprising is it, that there are those who still insist that the radiogram is positively misleading and unreliable. It seems probable that this belief springs from inexperience as regards technic or interpretation.

It is generally understood that no X-ray investigation is adequate until opportunity for inspection of pictures through two or more planes is afforded and it is an oft-repeated experience, that a marked displacement of fragments may escape detection in a single plane picture.

An expert radiographer was recently severely criticized because a first radiogram (taken under the surgeon's orders) showed perfect alignment in a Colles' fracture, while a second through the lateral plane, taken a few days later, indicated a startling deformity. An appended statement was to the end that the second picture showed a condition that did not exist.

Correct interpretation of shadow-pictures is a matter of considerable moment, occasionally calling for an exercise of artistic discrimination that comes

* Read before the Pacific Association of Railway Surgeons, August, 1909.

only with long training. In complicated fractures, it happens not infrequently that multiple lines are obscured or wholly hidden, and the outlines of fragments are hopelessly confused with joint interspaces. In such a contingency valuable aid is to be derived by the study of a picture of the opposite normal member. For this purpose, most X-ray laboratories maintain a more or less complete collection of well executed radiograms of joint structures, but there are, now and then, problems in fracture diagnosis which remain unsolved after exhausting every available resource including the X-ray. In the presence of the usual signs such as crepitus, abnormal mobility, deformity and overriding, with fracture lines and displaced fragments clearly indicated by the skiagram, repeated and conscientious effort at replacement fail, or after more or less satisfactory reduction, permanent fixation, by conservative means, is found to be impossible.

Two cases illustrating this point have been recently observed. The first was an oblique fracture of the tibia with associated fracture of the fibula. Under ordinary manipulation, the fragments seemed quite readily to resume fairly normal relations, but upon adjustment of splints, the deformity was found to have recurred. Again under ether, a strenuous effort was made to reach a satisfactory solution with a similar result. During a later operation, the cause of the difficulty was discovered, in a small, incarcerated fragment, which hung suspended between the fracture surfaces, over which sliding and displacement were inevitable.

Another case was that of a fracture of the femur in the middle third. Having frequently employed pulley traction to aid in reduction of deformity during operative procedure, I determined to resort to this plan in the hope that it would enable us to avoid resort to the open method. Accordingly, under full anesthesia, pulley traction was applied, as much force being used as seemed safe. During this process, the fragments were manipulated and adjusted and to my mind, replacement seemed assured. The alignment was apparently perfect and through the thick thigh muscles, I could detect no irregularity suggesting overriding. With traction still exerted, anesthesia being continued, an X-ray negative was taken to determine officially the exact status of affairs at that moment. Imagine my surprise at finding later that at no time had replacement been secured. These two experiences, occurring in rapid succession as a part of daily routine, will find manifold duplication in fracture treatment everywhere. They sharply accentuate the fallacy of implicit reliance upon tactile sense or even the X-ray in determining the relation of fragments, or the exact cause of displacement.

In such an exigency, having exhausted every resource, there would appear to be the best of reasons for a resort to a diagnostic incision as in dealing with many conditions affecting the abdominal viscera.

Speaking for those who are in accord with the idea of operative treatment of recent fractures, this doctrine will meet with no protest and I need only suggest that in this field, the transition from the old to the new is not more abrupt nor more startling than that which is manifest in undertakings which have become a matter of daily routine.

### Discussion.

Dr. W. I. Terry, San Francisco: I am in accord with the statements made by Dr. Huntington and I have some photographs which illustrate the reposition of bad fractures by operative measures. The whole story is told in these pictures.

Dr. Frank Rattan, Martinez: It seems to me that this subject will become a very important medico-legal point. Dr. Huntington is a very able surgeon and has every appliance possible to make these operations. When I am called out into the country, however, and have nothing but a jack-knife with which to operate, and am then sued for malpractice, and Dr. Huntington is called in as an expert witness, he will say that I did not do right. I suppose that we ought to send these cases down to Dr. Huntington, but I would like to ask Dr. Huntington what we in the country shall do with our fractures of the thigh.

Dr. Karl Kurtz, Los Angeles: I think that where it is impossible to make the diagnosis with the tactile sense and with the X-ray, it is probably advisable to make the diagnostic incision. I recall a case in Pasadena which came into my office in which the diagnosis had been made of dislocation of the shoulder joint. On examining this case the history stated that the head of the bone had been replaced, and the patient further stated that two or three weeks after the injury he had felt something snap and the physician had told him that he had a second dislocation. I examined and found a shortening of the humerus at least 1". I had an X-ray picture taken which confirmed the diagnosis. There might be a possibility in these injuries of not being able with the ordinary examination to make a diagnosis, and I presume that the diagnostic incision would be of value in such cases. I do not think, however, that it would be a good plan for every surgeon or physician to make a diagnostic incision for the simple reason that they are so apt to get infection.

Dr. Edward T. Dillon, Los Angeles: This paper was particularly interesting to me, as I have a great number of fractures in my work in Los Angeles. The point made of taking both the anterior posterior and lateral views of Colles' fractures is an excellent one. Sometimes one view shows the bones to be perfectly aligned, while another made in a different plane shows them imperfectly so. When good apposition of the fragments cannot be obtained I am sure that surgical interference is indicated.

Dr. T. W. Huntington, closing the discussion: The question asked by Dr. Rattan is certainly a proper one, as it is not within the possibilities that every man who is called upon to treat fractures can be expected to study them with the X-ray or to operate in those cases which seem to require operative treatment. In these instances, I should say that a carefully written record is a surgeon's best protection. If it be not possible for the patient to be transported to a point where operation can justifiably be undertaken, the patient should be made fully aware of this fact, and furthermore, should be told that without operation only a tolerable result could be anticipated. If all this be made a matter of record the surgeon need feel no anxiety as to the future attitude of the patient from a medico-legal standpoint.

# EPIDEMIC MENINGITIS IN CALIFORNIA AND ITS TREATMENT WITH FLEXNER'S ANTI-MENINGITIS SERUM.

By PHILIP KING BROWN, M. D., San Francisco.

Little is known of the history of epidemic meningitis before the beginning of the last century. It is regarded generally as a disease that this country is responsible for, as epidemics of it were described early in the 19th century along the Atlantic seaboard, before it was noted in Europe. It has probably existed endemically in this country ever since, breaking out in epidemics, in widely-scattered localities and without traceable cause, at distant periods of time. In its epidemic form it varies in severity from an exceedingly mild trouble unattended by complications, to an acute disorder, beginning with a chill and lasting very few hours before termination by death. The chronic form of the disease may extend over several weeks or many months, usually terminating in some permanent loss of function on the part of the patient, if not in complete incapacity. It may finally end in death. Mild cases occur and pass undiagnosed, or may cause as serious a complication as deafness almost without any other severe symptom. Such cases have been reported by Oppenheim, and I have had one in my experience.

The variety of types was wonderfully well illustrated in an epidemic of four cases occurring in Woodland, Cal., several years ago, where all of the children in one family came down with the disease within two days. One died in 18 hours; one in 4 days; one in 6 weeks, and the fourth in 6 months, in the meantime becoming greatly emaciated, mentally incapacitated, deaf and blind.

The disease has broken out on a number of occasions in barracks, and occurred in San Francisco at the outbreak of the Spanish-American War among the soldiers quartered in tents in San Francisco. It resulted in a high mortality and a wide range of disability among the patients who recovered, including deafness, suppurating joint disturbances, otitis media, facial paralysis, mental stupor, strabismus, and pericarditis. A year ago an epidemic of 9 cases occurred among the marines living in barracks at the Naval Training School on Goat Island, in San Francisco Harbor. A more airy and hygienic surrounding or a healthier life could hardly be imagined.

A search of the records of this state shows that there are no data upon which one can count with certainty as to the first appearance here of the disease. In response to communications to some of the older practitioners in the state, I find that in the southern part of the San Joaquin Valley meningitis occurred in epidemic form as early as 1877. Since that time, records of cases of primary meningitis that have recovered are obtainable from various parts of the state, suggesting the probability that the cases were due to the intracellular diplococcus of Wiechselbaum—since pneumococcic and tubercular meningitis are practically always fatal.

To my definite knowledge, in the past two years there have been epidemics or cases in which the diagnosis was proved bacteriologically in San Francisco, Berkeley, Alameda, Pacheco, Clayton, Irvington, Los Altos, Watsonville, Coalinga, Porterville, Bakersfield, Los Angeles, Woodland, Elk Grove and Roseville.

The tabulation of the deaths from meningitis in this state for the year 1907 is given in the accompanying diagram, and shows that during the months of April and May the deaths from meningitis in Central California were in some cases almost double the average for the year. In no other way could this be accounted for than that meningitis was epidemic in these localities at that time. Under the regime of the present State Board of Health an effort is being made to ascertain in each case the type of meningitis, and especially if it could have been the epidemic form. The Secretary of the Board, Dr. W. F. Snow, allowed me to look over at least one hundred letters from doctors, in reply to his inquiries. Only a very few of these were satisfactory in presenting information upon which one could base the diagnosis of epidemic meningitis with any certainty; and none of the data collected in this way has been used in enumerating the localities in which the disease has existed.

The infecting organism was described in 1887 by Wiechselbaum, and is a diplococcus, decolorized by Gram stain, occurring in tetrads or in short chains, difficult to cultivate and of low vitality. It occurs, like the gonococcus, characteristically within the polymorphonuclear leukocyte. It has been found repeatedly in the secretions of the nose, eyes and bronchi, and has been isolated from the blood. It may occur in the nose of persons in contact with the disease, and has been found even in the secretions of normal individuals not so exposed. It is regarded by Goodwin and Scholly as transmissible through the nasal mucous membranes, and the organism has been found by them in the nasal secretion of 50% of the cases examined during the first two weeks of the disease, and in 10% of the people in contact with these cases.

I am describing the disease as I have seen it in California, and not as the description occurs in textbooks. The reason for this is because it will illustrate the wide range of the symptoms from beginning to end that this disease shows in a small number of cases, and thus emphasize its many-sided appearance and progress. The onset in nearly all the cases in one small epidemic was by chill, followed rapidly by headache, nausea, vomiting, unconsciousness and high fever, death terminating the disease in from 5 hours to 2 or 3 days in 11 successive cases. In most cases, however, the onset was comparatively gradual, the patient noticing a dizziness and headache with general malaise and fever, all of the symptoms growing progressively worse, and followed by vomiting and rigidity, especially of the neck. In a certain small number of the cases there was a distinct eruption on the abdomen and chest, and even on the extremities, looking not unlike the roseola eruption of typhoid. Erythematous eruptions are quite common, and are usu-

STATE BOARD OFHEALTH REPORT.
Death from Meningitis, 1907.
Table 2b.

| Geographic Division. | Monthly Average | Jan. | Feb. | Mch. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| The State | 54.7 | 52 | 41 | 58 | 82 | 62 | 55 | 57 | 53 | 45 | 48 | 47 | 56 |
| Northern California | | | | | | | | | | | | | |
| Coast counties | 2.3 | 2 | 1 | 5 | 1 | 2 | 3 | 5 | 3 | 2 | 1 | — | 3 |
| Interior counties | 2.7 | 2 | — | 2 | 8 | 4 | 3 | 3 | 3 | — | 3 | 1 | 3 |
| Central California | | | | | | | | | | | | | |
| San Francisco | 12.2 | 14 | 10 | 8 | 28 | 17 | 12 | 7 | 10 | 15 | 6 | 10 | 10 |
| Other bay counties | 8.7 | 8 | 7 | 15 | 11 | 9 | 10 | 9 | 8 | 4 | 13 | 5 | 5 |
| Coast counties | 3.7 | 5 | 1 | 5 | 6 | 4 | 3 | 5 | 3 | 2 | 1 | 6 | 3 |
| Interior counties | 9.7 | 7 | 9 | 9 | 17 | 13 | 7 | 7 | 9 | 6 | 7 | 11 | 14 |
| Southern California | | | | | | | | | | | | | |
| Los Angeles | 12.0 | 12 | 11 | 11 | 9 | 11 | 13 | 13 | 13 | 12 | 14 | 11 | 14 |
| Other counties | 3.4 | 2 | 2 | 3 | 2 | 2 | 4 | 8 | 4 | 4 | 3 | 3 | 4 |

ally followed by petecheae of varying size. Herpes, especially of the lips, was a frequent symptom, and in one case in an adult an herpetiform eruption covered nearly the entire body. Tache cerebrale was present uniformly. The pulse is usually slow at the start, but varies greatly, and may be very rapid. Respiration is equally irregular, and seems to be dependent upon the amount of brain pressure. Cheyne-Stokes breathing was noted in only one case, that of a child about a year old into whose spinal canal an amount of serum was injected in excess of the amount of fluid withdrawn. It ceased on the withdrawal of some of the fluid a few minutes later. The fever is characteristically irregular, and may in acute cases return temporarily to normal, giving one false hope of convalescence, only to appear again with increased severity (Chart 5.) In this particular it may resemble the course of syphilitic meningitis.

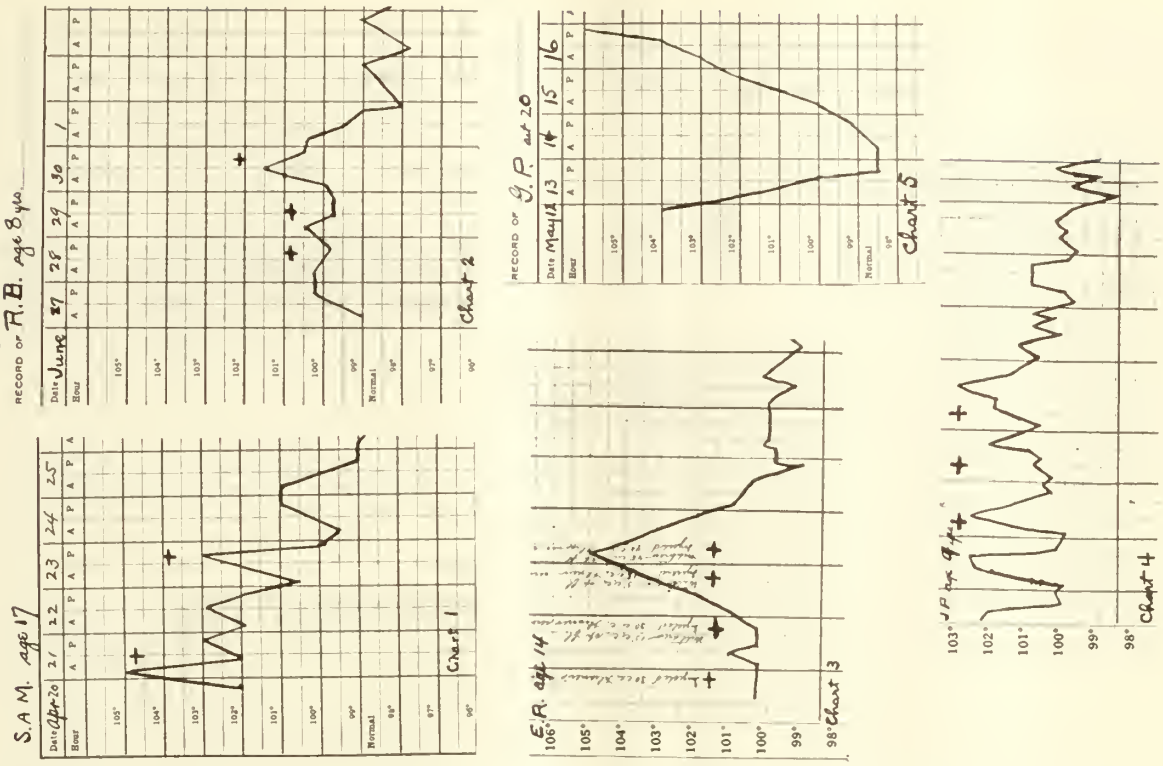
The mental condition of persons receiving prompt treatment was good from the start, if injected early enough. Headache was frequently relieved early, and did not reappear—this in contradistinction to cases not treated by the serum, where intense and persisting headache is the rule. The Kernig's sign, which was a constantly present symptom, as well as the neck rigidity, were invariably the most persistant symptoms, even in cases that recovered after one or two injections. In a few cases the headache was temporarily increased after the injection of serum, but only in cases where a syringe was used, instead of a funnel and tube.

Of the objective symptoms, a polymorphonuclear leukocytosis was constantly present, averaging generally about 25,000. This disappeared very rapidly in cases successfully treated. The character of the fluid removed from the spinal canal is typical of a purulent meningitis, and in the early stages is a slightly turbid fluid, containing large numbers of polymorphonuclear leukocytes and generally easily recognized intracellular, Gram negative diplococci. This rule, however, has very definite exceptions. From one case, ill five days, and unconscious, an apparently clear spinal fluid was withdrawn. It was considered to be tubercular meningitis, especially as 80% of the leukocytes were mononuclear forms. A few diplococci were found in the fluid, but were not intracellular. The white blood count showed a leukocytosis of 18,000, with 89% polymorphonuclear forms. A further amount of spinal fluid was withdrawn, and on examination showed the definite presence of meningococci. The child was injected with the serum. (Chart 2.)

As tubercular meningitis may be of rather abrupt onset, and may show a polymorphonuclear leukocytosis in the spinal fluid, a definite diagnosis from examination of the spinal fluid is not as easy as might be imagined. In a case of epidemic form seen with Dr. J. O. Hirschfelder, in which the spinal fluid was withdrawn on the fourth day, intracellular diplococci were found only after several hours of search. Had they not been found a positive diagnosis could not have been made. It is nearly impossible to find typical intracellular organisms after the first injection of the anti-meningitis serum. Not only do the organisms almost entirely disappear, but those that remain stain less well and are frequently extracellular. Furthermore, there are very many fewer pus cells. The spinal fluid may become almost clear after the first or second injection.

Cases treated by Flexner serum have shown very few complications; the chief ones seen have been present when the cases were first examined—an optic neuritis and complete deafness in one patient at the end of three weeks of the disease; a facial paralysis in another, and conjunctivitis in a third being among these. This is, of course, a very different matter from the complications one finds in cases treated by other means than the serum—arthritis (often purulent), blindness, deafness, paralysis, imbecility in various forms—being among the commonest of the serious complications seen in cases not treated with the serum, besides inflammations of the mucous and serous membranes which did not occur in any of the cases treated with serum.

To date, the serum has been used on 38 cases, nearly all of which I have seen at least once. There




Apr. 21st.—50 cc. slightly cloudy spinal fluid withdrawn; 45 cc. anti-meningitis serum injected.

Apr. 23rd.—30 cc. spinal fluid withdrawn; 16 cc. anti-meningitis serum injected.

Convalescence uninterrupted.

### Chart 2.

June 28th.—5th day of the disease. 60 cc. spinal fluid withdrawn; 30 cc. anti-meningitis serum injected. Boy unconscious; unable to swallow.

June 29th.—25 cc. spinal fluid withdrawn; 45 cc. anti-meningitis serum injected. Boy still unconscious.

June 30th.—Remarkable improvement. Boy conscious; headache gone. 30 cc. spinal fluid withdrawn; 30 cc. anti-meningitis serum injected.

Convalescence uninterrupted.

### Chart 3.

On the 7th day of the disease boy unconscious. 30 cc. spinal fluid withdrawn; 30 cc. anti-meningitis serum injected.

The following day 15 cc. withdrawn; uncertain quantity (probably about 15 cc.) anti-meningitis serum injected.

On the next day 5 cc. withdrawn; about 15 cc. injected.

On the next day, under chloroform anesthesia because of the unsuccessful attempts of the two preceding days, 45 cc. spinal fluid were withdrawn, and 45 cc. anti-meningitis serum injected.

### Chart 4.

Begins with the 4th day of the disease. At each puncture of the spinal canal (indicated by the crosses), 30 cc. or more of the spinal fluid were withdrawn, and, except at the last injection, 30 cc. anti-meningitis serum injected. An accident prevented more than 20 cc. being injected the last time.

Six weeks later this child had a relapse.

### Chart 5.

An untreated case, with the temperature returning to normal on the 2nd and 3rd days of the disease; finally ending fatally.

In the cases that have ended fatally under treatment the temperature has occasionally risen after serum injection, although in most cases it falls. When the injection was made in the earlier cases with the syringe, headache followed not infrequently, as well as pain in the legs. This occurred very rarely after the funnel and rubber tube were used, attached to the end of the needle.

**Note.** Since writing this article a pamphlet has been issued by Mulford & Co., indicating that they are putting on the market an Anti-Meningitis serum prepared after the method used by Dr. Simon Flexner.

have been 12 deaths, or a mortality of about 30%. Of the deaths,

1 occurred in an epidemic where the serum gave out, after decided improvement of the patient from its use.

4 were moribund when injected.

1 got a streptococcus infection of the spinal canal (relapsed case).

1 died of acute diffuse myelitis after 7 injections.

2 were treated entirely by other doctors, with meagre directions, and no complete data of the result was ever furnished me.

2 of the 9 cases occurring in an epidemic on Goat Island.

(1) fulminant case, after a single injection of 2-3 the present dosage; and

(1) a recurrent case, six weeks after the first attack, where the disease was probably very diffusely spread over the meninges.

There have been 2 relapses in the 38 cases, both of them dying. Neither one was as promptly treated in the relapse as in the first attack.

The technic and the effect of the injections need a special word. As the serum is not an anti-toxin,

but possesses strong bacteriolytic power, and owes its efficiency to this fact, it must be injected into the spinal canal in maximum dosage. It is utterly valueless given subcutaneously. The serum seems to have no bad effect whatever, even when given in doubtful cases before bacteriologic examination. Early in the use of the serum the inefficiency of small doses was shown (see Chart 3). The serum seems to be most efficient if given in amount equivalent to the total amount of the spinal fluid that can be withdrawn. In my experience it is difficult to get more than 50 c. c. of the spinal fluid at one time, even from an adult. The usual dose administered now is three bottles of the serum, or 45 c. c. (see Chart 1). The serum must be at body temperature when injected, and is best put into the spinal canal by attaching to the needle used in withdrawing the spinal fluid, a small rubber tube, to the other end of which is attached a glass funnel. The serum is poured into the funnel before the attachment is made, so that all the air may be gotten out of the tube connection. This has the advantage of enabling the serum to be put in under low pressure, and causes less frequent headache and pain in the legs than where it is put in with a syringe.

*Differential Diagnosis.*

The difficulty of determining whether one has to do with tubercular or epidemic meningitis has already been referred to. I have had one experience in a case of a doctor's child, in a country town where epidemic meningitis had occurred, where the boy, convalescent from mumps, developed a sudden temperature of 102°, with headache and vomiting. All these symptoms developed within a few hours one evening in a lad of 9 years, apparently perfectly well prior to this except for mumps. The following afternoon, when I saw him, he had marked rigidity of the neck, Kernig's sign, knee reflexes absent in the right leg and almost gone in the left, unconsciousness, and temperature of 103°, with a slow pulse. There was no eruption, and no history of tuberculosis in any of the family. The spinal fluid when withdrawn was slightly turbid—as much so as I should have expected in the first day of the epidemic form of the disease. I gave the boy 45 c. c. of anti-meningitis serum, and took the spinal fluid to town for examination. Nothing grew in the cultures, and no bacteria of any kind were found in the fluid. There was a very striking number of lymphocytes—from 15 to 20 in every field—and hardly more than one polymorphonuclear form to this number of lymphocytes. A positive diagnosis of tubercular meningitis could not be made without the finding of the organism, although every other clinical symptom, including the lymphocytosis, pointed to it. The case would have been additionally interesting had tubercle bacilli been found, because the boy recovered. He was given 60 to 70 grains of urotropin a day, and spinal fluid was withdrawn 24 and 48 hours after the first withdrawal.

It would seem scarcely necessary to discuss any other condition that might be mistaken for meningitis, further than to refer to the extreme frequency in children of meningeal symptoms with the onset of acute diseases. I have met this condition three or four times, where it was necessary to withhold a positive diagnosis for a number of hours. The spinal fluid from these cases contains no cellular elements of moment, and if such an examination can be made it should assist in the diagnosis. I have seen such a case within a few weeks with Dr. Orella, in a Greek boy, where on the fifth or sixth day after the onset of an actue illness with high temperature, migratory pneumonia became very apparent, and a diphtheria was superimposed before the crisis of the pneumonia was reached. The meningeal symptoms for the first few days, during which time the respirations were 16 to 18, although the temperature was 105°, were the most marked symptoms that the child had.

A case of meningitis from coccidiodial infection, seen with Dr. Ryfkogel, baffled positive conclusive diagnosis until autopsy, although the nature of the meningitis was suspected. Dr. Ryfkogel will report the case in full later.

Syphilitic meningitis, or acute syphilitic encephalitis, must be considered carefully in certain doubtful cases. A child of 11 years, convalescing from measles (seen with Dr. Jump), developed meningeal symptoms on the eighth day, and sank into coma rapidly. Her temperature reached 103°, and she had strabismus, irregular pupils, absent knee-jerks, Kernig's sign, and rigid neck. The spinal fluid was clear and contained no evidences of tubercular infection in organisms or cell-count. After three days the temperature fell to normal for 36 hours, although the coma continued. In the meantime, the spinal fluid showed a positive Noguchi test, butyric acid test and Nonne reaction. The number of leukocytes was never significent, as is commonly the case in syphilitic meningitis. The fever returned after a 36 hours fall. The child recovered on specific treatment.

Anterior poliomyelitis has occurred epidemically in California. The first epidemic (at La Grande) was reported by Newmark. The second (in and about San Francisco), by Alice Wood. The third (at Watsonville), by me, and also the fourth (at Red Bluff, last fall). Two of the cases from the last epidemic came under my observation, and Dr. John Fife of Red Bluff refers to the epidemic in a letter to the State Board of Health. There is nothing in the accurately-worked-out picture of the acute condition or its complications to suggest meningitis, but I have seen such cases diagnosed as meningitis, and the paralysis attributed to a consequent neuritis. As far as I know, the neuritis of epidemic meningitis is limited to the cranial nerve. The posterior nerve-roots of the spinal cord have been shown by Councilman to be the seat of inflammation, and lymphoid cells are sometimes found among the nerve fibres which show some degeneration; but in no discussion of the disease that I have been able to consult have I found any reference to a complicating neuritis that could be mistaken for the spinal cord changes of anterior poliomyelitis. The neuritis that may occur with the onset of some of the cases of meningitis that are subacute from the start, e. g.: double sciatica has been reported, can hardly be so mistaken. In one of my

cases an acute myelitis of the cord occurred, without bacterial invasion. The case was studied by Dr. Ophuls in sections and cultures.

It remains to say only a word about the distribution of the serum. As long as the supply is exceedingly limited, and while its use is regarded as experimental, it is necessary to make the most use of the clinical observations of cases that are treated with the serum. For this reason its use has been confined to such cases as were possible to prove by bacterial examination, and of which an accurate record of the symptoms and course of the disease could be obtained, and where the careful technic recommended by Dr. Flexner could be carried out. I have made efforts to have the State Board of Health take up the manufacture of the serum, on account of the wide prevalence of the disease in California, and it seems possible that in the near future some provision will be made for its production.

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## TREATMENT OF FRACTURES OF HUMERUS THROUGH MUSCULO-SPIRAL GROOVE.*

By REXWALD BROWN, M. D., Santa Barbara.

Simple fractures of the shaft of the humerus have in the past exacted special consideration in some 5 to 8 per cent of cases, because of involvement of the musculo-spiral nerve to the extent of paralysis, as manifested by inability to extend fingers and hand, loss of power of supination, and impaired sensation in back of forearm. This paralysis may appear coincident with the fracture or as a complication of later days or weeks.

In primary paralysis the nerve may be contused, may be lacerated, may be stretched, impaled on a jagged fragment, pinched between fragments, crushed within its perineurium, or altogether severed.

In the secondary type of paralysis it is almost uniformly found that the nerve suffers from pressure of the bony callus. This callus may form tunnels about the nerve, compressing it at points or for considerable length. Sharp spicules may project into the nerve and partially or wholly sever it—or the callus may lift the nerve trunk from its bed, producing various angulations.

That the operative treatment of simple fractures of the long bones, in the hands of careful surgeons, almost invariably gives perfect anatomical and functional results is not yet fully appreciated by large numbers of the profession. It is impossible to expect that the pioneers in this branch of surgery, practically a work of the last few years, can at once break the inertia of the conservative and expectant methods of handling fractures which have existed for many hundreds of years. The profession has been taught to believe and has learned to know that certain types of fractures yield almost a definite per cent of ill results regardless of the treatment applied. Surgery, therefore, which discredits these beliefs, these facts, has been too revolutionary to accept.

The above is merely prelude to my conviction that closed fractures of the shaft of the humerus through the musculo-spiral groove are absolute indications for open treatment, not alone that the fractures may be handled in a masterly way, but also that musculo-spiral injuries, when immediately present, may be managed properly at the time, and that such complications, arising during callus formation may be prevented. It is an unhappy occurrence, a patient having been assured that the bone is knitting kindly, to be confronted with a useless arm after the splints are removed—most unhappy for the patient, extremely embarrassing for the doctor.

A great many text-books urge an expectant treatment in the primary type of paralysis, emphasizing the hope that the nerve may be only contused, and that molecular changes will be rectified shortly. At any rate, so the statements read, though the nerve be divided or crushed, a secondary operation in the future will be productive of as good results as would have immediate interference which necessitates opening of the flesh down to the fracture surfaces, seriously jeopardizing bony union. This latter contention scarce carries weight to-day, so overwhelming are the excellent results in fracture repair by the open method.

The nerve concerns us—it is not fair to a patient's best interests to trust to nature to cure a contusion, when we do not know a contusion is present—nor is a contusion to be considered lightly, for combined with minute lacerations, it may be the forerunner of cicatricial deposits in the nerve trunk to interfere with carrying of impulses. From the basis of experience we do know that a lacerated, pinched, stretched or divided nerve is more than probably responsible for the paralysis.

Such conditions are serious lesions. It is impossible that operations conducted at considerable intervals after the damage has been done can give as favorable prognoses as primary procedures. Let us know the reasons: After the partial or complete division or crushing of a nerve trunk conduction ceases in the peripheral segments of the severed axones, and degeneration of the fibres begins at once. There is also degeneration in the central end to the first constriction of Ranvier. Within the usual period the space between the divided and retracted nerve ends becomes filled with cicatricial tissue which often penetrates into, surrounds or constricts either one or both segments. Neuromata and bulb formation occur not rarely to further damage the insulted nerve trunk.

The longer the central cells in the cord and spinal ganglia are deprived of external stimuli, the greater is the disturbance of the trophic energy, and les-

* Read before the Pacific Association of Railway Surgeons, August, 1909.

sened is their power to properly handle impulses when conductivity is again established by anastomosis of the severed ends. Though regeneration of axonal wires in the peripheral segments appears almost simultaneously with the degenerative processes, —arising from the proliferation of the chains of cells, comprising the Sheath of Schwann, or neurilemma—new fibers are imperfectly developed without the establishment of conductivity.

Now, therefore, the surgeon who undertakes musculo-spiral nerve repair some weeks or months after the onset of paralysis finds very often discouraging obstacles to surmount, which lessen the probabilities of complete functional return to the parts involved. He has to contend with neuromata, with adhesions, cicatrices and retracted ends. To secure union he frequently has to resect considerable nerve trunk, for the smallest amount of scar tissue in or between the ends will prevent the penetration of neurones to complete continuity, segment to segment.

To bridge the nerve loss, various expedients are of service. Interposition of arterial segments, segments of nerves from other animals, hollow decalcified bones, and cat-gat bundles have in the past been indifferently successful—in instances part of the shaft of the humerus has been resected to allow approximation of the nerve ends. Best results follow repair by the flap method, either one or both segments sacrificing still more of their structure to close in the gap. At times, it seems feasible to graft the proximal end into a neighboring trunk. This procedure of course damages the integrity of a wholly sound nerve.

In short, though the musculo-spiral nerve can be repaired after a lapse of months or even years, and it is probable that function will be restored to the paralyzed areas, it may again be months or years before the result desired is apparent. Granted aseptic union is secured—and success is impossible without it—with continuity of axis cylinders from central cells to end plates, the proximal fibers, though regenerated, are imperfect, needing the influence of central control to gain anatomic perfection, rendering it possible for them to functionate in normal physiologic way. The central cells do not easily and rapidly yield this influence, their energy being partially deadened—in direct ratio to time since injury—as referred to in preceding paragraph.

Insomuch, therefore, as the pathological situation becoming worse with the passage of time following the nerve lesion renders operative repair not positive of excellent results, it is essential that the surgeon should secure immediate end to end approximation of axones which have had their continuity interfered with by division, crushing or laceration. Clinical cases have repeatedly demonstrated that early anastomoses bring rapid and certain restoration of function. The proximal segments have retained their potency, and exert marked influence on the development of the new axis cylinders from the neurilemma in the distal segments. Sensation is often present within six weeks and motion in ten or twelve. And rarely is an individual able to work before this period in an uncomplicated fracture of the shaft of the humerus.

It is not alone incumbent on the surgeon to cut down at once on fractures presenting immediate musculo-spiral paralysis, but his duty extends to the prevention of such disasters as sequelae of bone union. The accomplishment of this is a very simple matter—during the replacement and securing of the bone ends through open incision the nerve may be partially lifted from the groove and surrounded opposite the area where the callus is to form by flaps taken from adjacent fascia or muscle. Such procedure does not allow the callus to grow into, surround or compress the nerve, and its integrity remains undisturbed. Other means of protection are found in the use of sterile gelatin tubes, blood vessels of animals, Cargile membrane, and wax tapes. These are poor substitutes for fascia or muscle.

G. B., aged 67, laborer S. P. Co.—Struck by an engine.

Examination. (a) Simple fracture of right humerus—junction of upper and middle 1-3. (b) Musculo-spiral paralysis—motion and sensation.

Operation. (a) One week after injury—when swelling had receded. (b) Fracture ends replaced and wired—staples were not available—plaster cast. (c) Musculo-spiral nerve surrounded by flap of adjacent muscle.

Pathology. Distal fragment of humerus overriding proximal to inner side, carrying with it musculospiral nerve, which was actually angulated on fragment—perineurium was not broken.

Later history. (a) Sensation present within 3 weeks—complete in six. (b) Motion returned slowly—not altogether normal at end of four months at which time patient passed from observation.

In this case the neurones were severed or crushed without wounding of the nerve trunk envelope. There was no necessity for suturing because of the intact perineurium and the most favorable conditions were present for union of axis cylinder, the cement substance coming wholly from the neuroglia or neurilemma. No interposition of connective tissue was possible. In this connection—when suturing divided nerves, the suture material should never be passed through nerve substance, but through the perineurium. This avoids the possibility of connective tissue proliferation about the axones to jeopardize restoration of function. Had this case been handled by external manipulation and splinting and the nerve condition given over to the mercies of watchful expectancy, it can readily be seen that the manipulations might have cut the membrane which held the segments together, and that one or both would likely have been imbedded in callus or adhesions.

B. E., aged 60, carpenter, extremely muscular. Heavy beam fell, striking arm.

Examination. (a) Simple fracture of right humerus—junction of middle and lower 1-3. (b) Impaired sensation, back of forearm—inability to extend fingers—paresis of wrist.

Operation (a) Five days later. (b) Fractured ends replaced and wired—great difficulty in replacing ends, which overrode 2 inches—plaster cast. (c) Musculo-spiral nerve surrounded by flap of muscle.

Pathology. Musculo-spiral nerve was partially out of canal, somewhat stretched by distal fragment.

Later history. (a) Sensation completely restored in five weeks. (b) Patient able to resume work in four months—complete restoration of function.

This case presented the symptoms of a stretching of the nerve as evidenced by a paresis of motion and sensation. In such condition there is disappearance of some axis cylinders for considerable distance below the point of stretching. This type of nerve injury recovers of course without operative attention, yet the pathology as demonstrated by the incision made it apparent that the callus in forming undoubtedly would have involved the nerve to its serious damage.

Injuries similar to those of the musculo-spiral occur not infrequently to the ulnar and median nerves when the humerus is fractured near to these trunks. The treatment should differ in no wise from that accorded the musculo-spiral.

### Discussion.

Dr. O. D. Hamlin, Oakland: I was interested in Dr. Brown's suture of the musculo-spiral nerve. I have had some of these cases and I must say that my results have not been as successful with regard to the return of the function of the nerve. Dr. Brown states that in 6 or 8 weeks the nerve function is returned. It has not been so in my cases. In one case particularly the function did not return for nearly nine months and I had almost lost hope of any return. This case of mine was not a case of musculospiral but was a case of stab wound under the arm where the median and ulna nerve and brachial artery were all severed. Immediate operation was not done on account of the circulation of the arm. It was a question as to whether the circulation would return and as to whether the arm should be amputated. The final result was good, however, and both nerves were sutured about six weeks after the injury and the thing which was the worst part was the retraction of the proximal end of the nerve. The distal end does not retract but the proximal end does retract. We had great difficulty in bringing them together, I used a piece of gauze and opening well up into the axillary space suturing the sheath of the nerve to the muscle because the traction was so great if left to itself the nerve would not hold and the suture to the muscle fixed it and helped to hold it. At the end of four months sensation and motion returned slowly and at the end of nine months the function of the arm was completely restored. With regard to injuries to the musculo-spiral nerve I have seen simple cases of fracture of the humerus at the end have a wrist drop because of injury to the nerve but two cases which I brought had typical wrist drop after about two months, final result was all right, function returned. The open method of fractures is indicated where you have a pathological condition to deal with but I do not believe we can say that every case should be open; I believe we have to study and watch. I do not know of any rule; it is a question of good judgment. I do not believe we should open all cases of fracture of the humerus where the musculo-spiral nerve is probably injured. The doctor thinks that a later operation is not so successful.

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## NOTICE!

**The Register and Directory is now being compiled for the edition of 1910. We expect to issue it in August or September. Please help us to make it as accurate as possible by sending in NOW, any changes of address that have come to your attention. Don't wait a month or two and then send them in; send them in right away.**

## A CASE OF THEOCIN POISONING.

By E. SCHMOLL, M. D., San Francisco.

The quick and reliable action of theocin has given it a proponderant place in the treatment of cardio-renal disease. Numerous publications attest its efficiency in desperate cases, and enormous diureses are common after its exhibition. These enthusiastic reports induce one to believe that the ideal diuretic has been discovered, and that the older drugs are of use only in the exceptional instances where theocin cannot be given.

The ideal diuretic is a substance which will promptly give therapeutic results without deleterious action on the kidneys or any other organ of the body. Too much cumulative action is also undesirable.

Even a moderate experience with theocin will show that it falls short of this ideal as the by-effects on the stomach and nervous system often prohibit its use and in a few reported cases, death has been hastened.

As caffein, theobromin, its derivatives diuretin and theocin have practically replaced all other diuretics on account of their recognized efficiency and prompt action, it will be of interest to consider their source, their common characteristics, their several advantages and disadvantages.

All of them are derivatives of xanthin; the hydrogen atom in the 1, 3 and 7 positions having been replaced by the methyl radical. Substitution of one hydrogen yields monomethylxanthin, of two dimethylxanthin, of three trimethylxanthin (better known as caffein). If in the dimethylxanthin the hydrogen is replaced in the 1st and 3rd positions we deal with theocin; in the 3rd and 7th with theobromin.

Animal experiment and clinical experience have shown that the common and most prominent pharmacological property of these derivatives in moderate doses is a stimulation of the nervous system, the striated muscles and the protoplasm of certain organs, especially the kidney. Large doses paralyze the same organs.

The action on the central nervous system is most marked with caffein, less with theocin, and practically nil with theobromin. The resulting nervousness, restlessness and insomnia are so severe, sometimes even after small doses of caffein, as to greatly limit its usefulness as a diuretic. Tremor and twitching of the hands may occasionally be seen. Theobromin and diuretin have almost no effect on the nervous system in clinical doses. Theocin generally shows little nervous disturbance until the third or fourth day. Then the irritability of the cortical motor centers is apparent and may occasionally be severe enough to cause convulsions. In experiments published by Allard, all the animals died in tetanic convulsions. Schlesinger was the first to describe similar results after the therapeutic use of theocin.

A typical case has lately come under my observation which was rather puzzling at the outset. As others may have had similar experiences the report may be of interest.

Mr. J.—54 years old, has suffered for about 2 years from shortness of breath, epigastric oppression and edema of the legs. The first examination showed a dyspnea of 40-50 respirations per minute. The face and arms were very cyanotic and legs, scrotum and abdominal wall edematous. A diagnosis was made of general arteriosclerosis and chronic nephritis with aortic, mitral and tricuspid insufficiency. The liver was very much enlarged, extending 6 cm. below costal margin, and was pulsating.

The treatment is shown in the following table:

| Date. May. | Pulse. | Resp. | Liquid ingested. | Urine. | Medication. | Remarks. |
|---|---|---|---|---|---|---|
| 13 | 110 | 42 | 800 | 680 | | |
| 14 | 112 | 46 | 800 | 960 | | |
| 15 | 106 | 36 | 800 | 960 | | Feeling better, not so much dyspnoea. |
| 16 | 106 | 32 | 800 | 4800 | 3x .1 Fol. digit.<br>3x .3 Theocin | |
| 17 | 102 | 24 | 800 | 5200 | 2x .1 Fol. digit.<br>3x .3 Theocin. | Feels sick to his stomach. |
| 18 | 106 | 18 | 800 | 5300 | Medication stopped. | General convulsions. |
| 19 | 88 | 16 | 750 | 1560 | | |
| 20 | 104 | 22 | 900 | 800 | | Shortness of breath, restless. |
| 21 | 84 | 20 | 900 | 1230 | 3x .1 Fol. digit.<br>3x .3 Theocin. | Very restless, nauseated. |
| 22 | 92 | 22 | 900 | ? | Digit. and Theocin stopped.<br>Calomel and Jal. 5 grs. | Nauseated. |
| 22 | 100 | 22 | 690 | 600 | 3x .1 Fol. digit.<br>2x .3 Theocin. | Very poor night. |
| 24 | 88 | 20 | 990 | 1140 | 3x .1 Fol. digit.<br>2x .3 Theocin. | Nauseated. |
| 25 | 96 | 18 | 900 | 1260 | 3x .1 Fol. digit.<br>2x .3 Theocin. | Good night.<br>Slept well. |
| 26 | 84 | 20 | 900 | 1520 | 3x .1 Fol. digit.<br>2x .3 Theocin. | Good night. |
| 27 | 84 | 22 | 390 | 2070 | 3x .1 Fol. digit.<br>2x .3 Theocin.<br>Cal. and Jalap. | Headache, nauseated, vomited, slept very little. |
| 28 | 86 | 20 | 600 | 450 | Medication stopped. | General convulsions, vomited just before spell occurred. |
| 29 | 88 | 20 | 900 | 900 | Medication stopped. | |

The amount of fluid in the dietary was restricted and the administration of 0.3 gm. powdered leaves of digitalis and 0.9 gm. of theocin per day was followed on the fourth day by a tremendous diuresis. For three days the patient passed a daily average of 5,000 cc. of urine, and as he took in only 800 cc. of fluid in the form of milk, he lost his edema at the rate of 4,200 cc. a day, or about 26 pounds in the three days.

On the morning of the second day symptoms of intolerance to theocin were noticed. The patient was nauseated and very uneasy, although his circulatory condition had improved to a marked degree. His dyspnea had diminished, the heart action was better and the edema was disappearing very rapidly. The next morning the symptoms of intolerance to theocin were so marked that the medication was stopped. During the day the nausea grew less but was still marked in the evening. At that time the patient was very nervous, excitable and showed considerable tremor. During the night his wife awoke to find him in clonic convulsions, which, according to her description, much resembled epilepsy. In a few minutes the muscles were set in a tonic contraction and he became comatose and cyanotic, with deep, slow and noisy respiration. As soon as the tongue, which had been aspirated, was pulled forward, the cyanosis disappeared and he promptly recovered.

As this attack coincided with the beginning of an enormous diuresis—nearly 16,000 cc. being passed in three days—the attack was ascribed to a cerebral anemia caused by the sudden relaxation of external pressure on the peripheral blood vessels, and a bleeding into his own veins. Two days later his condition grew worse again, dyspnea and restlessness returned, and the administration of digitalis and theocin was resumed. After 24 hours the recurrence of nausea forced us to give up the medication. Calomel and jalap were given on the 23rd, after which digitalis and theocin were resumed, and continued until the 28th. On the 26th the symptoms of intolerance began to appear—nausea, headache and restlessness—and on the 27th vomiting set in and forced us to discontinue the medication on the next day. On the night of the 28th an attack occurred similar to that of the 18th, excepting that it was milder. The convulsions lasted but a very few minutes and the patient soon recovered.

As on this occasion the diuresis had not been excessive the previous explanation could not hold good. Remembering the publications of Schlesinger and Allard, the convulsions were considered as due to theocin, which was thereafter excluded from his treatment. The patient regained full compensation by June and remained well for three months before he began to fail again. The physician in charge, in whose absence I had treated the patient, and whom I had forgotten to inform about the toxic effects of theocin, gave him the same combination of digitalis and theocin. Five days later, nausea, restlessness and vomiting recurred, so that the medication had to be stopped on the sixth day. In the evening of that day the clonic-tonic convulsions appeared in the same form as on previous occasions. The patient recovered and is at the present time fully compensated.

Besides the publications of Schlesinger already mentioned, there have been reports of similar cases from Strass, Hundt, Jacobsen and Allard, who besides his two cases and some very conclusive animal experiments, gives an excellent review of the literature.

Schmiedeberg, after reviewing these nine cases, denies any direct connection between theocin and the epileptiform convulsions for the following reasons:

Firstly: The convulsions occurred in most of the

cases one to two days after the medication had been stopped, and in only a few did they occur during the use of the drug.

Secondly: The convulsions which in the animal experiments are produced by theocin are tetanic, while in all of the reported cases the convulsions were of a clonic-tonic type.

Thirdly: The convulsions may be of uremic origin, produced by the sudden mobilization of waste products due to the resorption of edema following the use of theocin.

It is only fair to say that these objections may be raised in regard to some of the cases, but do not apply to case 1 of Schlesinger, the two cases of Allard, and case 2 of Jacobson.

Schmiedeberg's several objections may be answered by the following arguments:

Firstly: In all these cases the toxic symptoms increased in severity with each day elapsed after beginning the treatment, and the convulsions were preceded by nausea, vomiting and nervousness. In the case reported above, the presence of theocin in the body was sufficiently evidenced by the persistence of the toxic symptoms all day after the stoppage of the drug. Then came the convulsions during the night. We must remember that in all these cases excretion was greatly handicapped by the renal insufficiency, and it would be far easier for any drug to accumulate in the system.

Secondly: The change from tetanic to epileptiform convulsions in different species is not without analogy. For instance, morphin acts as a sedative on man and like strychnin on cats.

Thirdly: Our case was observed over a period of nearly two years, and no convulsions ever occurred except after the use of theocin. That the convulsions are not due to the mobilization of waste products is shown by the fact that they do not always coincide with increased diuresis. Also that in the second attack in September, the diuresis following the use of diuretin did not lead to convulsions.

The occurrence of these epileptiform attacks due to theocin should be a grave objection to its clinical use, especially when in a number of instances, death has followed their appearance. These accidents occurred in bodies so diseased that it cannot be said that the theocin was the cause of death, but a drug liable to hasten death can be used only when there is vital indication or after other diuretics have failed.

The second series of organs influenced by the methylxanthines are the striated muscles. The ergograph has shown that caffein has a powerful effect in delaying the appearance of fatigue and the amount of work that can be performed without exhaustion is greatly increased. The heart-muscle is also stimulated to more forceful and frequent contractions. In large doses, however, the methylxanthins cause a permanent shortening of the fibers, identical with rigor mortis. The diastole is shortened and finally there is complete standstill in systole.

Caffein frequently causes an irritability of the heart-muscle shown by partial contractions and extra-systoles and is especially liable to render a rapidly beating heart irregular. In my experience theocin has not this action, but a typical case due to diuretin has recently come under my observation.

Mr. B.—65 years old, consulted me on account of nocturnal asthma. Examination showed: general arteriosclerosis, interstitial nephritis, high blood pressure and hypertrophy of the left ventricle. The pulse was 92; perfectly regular and of good character. A lactovegetarian diet and 4.0 gm. of diuretin daily was prescribed.

Two days later the patient returned with the oppression and dyspnea increased. Examination showed a pulse of 44, which was found to be due to a bigeminal rhythm in which the second beat failed to reach the wrist. Diuretin was immediately stopped, but the condition remained for five days before it slowly passed off.

The methylxanthins act on the circulation not through the heart but mainly through their powerful influence on the vasomotor centers in the medulla, and blood pressure may be restored to normal in cases of shock. Their action on protoplasm is beautifully shown in experiments with plasmodia where their motility is greatly stimulated by a dilute solution of caffein. The diuretic action of the methylxanthins is very largely due to their direct stimulation of the kidney cells while the increased blood flow, which has been demonstrated by Loewi in plethysmographic experiments, plays only a secondary role.

In a very meritorious work, in which he compares the activity of the different diuretics, Ach arrives at the conclusion that if the quantity of normal urine be put down as one, the value of the theocin diuresis is 6.3; theobromin 3.8—4.3, and caffein 2.65. The comparatively feeble action of caffein is due to the fact that its more prominent stimulation of the vasoconstrictors counterbalances the direct action on the kidney cells and the scant material offered to them through narrowed vessels interferes with the development of a full diuresis.

The conclusions arrived at by the pharmacological comparison of the different methylxanthins are fully corroborated by clinical evidence. If a pure diuresis without any action on the circulatory system be desired, theobromin and its derivative diuretin are indicated as they represent the purest diuretic action. Stimulation of the nervous system and cardiac muscle is minimized with their use, while secondary actions are exceptional and then of but short duration. The relatively slow and feeble action of theobromin is a drawback to its clinical use. A diuresis of at most 3,000 to 4,000 cc. occurs usually on the third day, sometimes on the fourth. Diuretin is always inferior to theocin which is usually active within 24 hours, often within six; and causes the largest diuresis known to medicine, reaching to 8,000 or even 10,000 cc. in 24 hours.

Caffein is indicated if the failure of the kidney to excrete is due to vasomotor paralysis. In these cases, the recovery of vasomotor tonus is followed by marked diuresis. Caffein may be given hypodermatically if an immediate action be imperative, or if the stomach be very irritable.

To summarize; all the xanthin diuretics have a stimulating effect on the nervous system, the heart-muscle and the kidneys.

The nervous and cardiac effects are most pronounced with caffein; the purely diuretic effect with theobromin, and a very intense diuretic action with irritation of the nervous system with theocin.

On account of the toxic properties of theocin, it should be given only in cases where there is immediate danger to life or where other diuretics have failed. A few words may be added as to the method of administering these drugs and their dosage.

Caffein should be given hypodermatically in doses of about 0.2 gm., repeated three or four times a day. Theobromin, which is insoluble, seems to be preferable to its soluble salts, diuretin and agurin. According to our experience it is better tolerated by the stomach and its action is as prompt as with the soluble salts. Its dosage should be 3 gm. to 4 gm. daily; of the soluble salts 4-6 gms.

Theocin is given in doses of 0.3 gm. three times a day. To avoid direct irritation of the stomach it may be given in suppositories or in enemata. This works remarkably well in a majority of cases but sometimes no effect is obtained. Irritation of the rectum has been reported, but has never been observed by the writer. Its administration hypodermatically is often inefficacious and sloughing of the skin has followed its use by hypodermoclysis. Schlesinger and Romberg advise giving the drug on every second day to prevent stomach symptoms, but in the cases in which I tried this method the diuresis was missing as well as the stomach symptoms.

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## PAIN AS A SYMPTOM IN SECONDARY SYPHILIS.*

By EDWARD W. TWITCHELL, M. D., Sacramento.

One can not help being struck by the obtuseness of the general public in the matter of the observation of what, to us, are clamorous symptoms. Proof of this are the numerous cases of tertiary or meta-syphilis whose primary or secondary manifestations have entirely escaped the patient. Within the last few years I have happened to see several syphilitics who were roused from their indifference by the single symptom of pain, totally ignoring the symptoms which had preceded it.

For example, Mrs. X., recently married, was previously the picture of health. I am summoned to relieve the excruciating pain in the joints; pains that she regards as rheumatic. She alludes not at all to a very well marked roseola, general over trunk and limbs. The various gland constellations are swollen, and in every way she presents a typical picture of secondary syphilis, though she has no recollection of a primary sore. The husband has no trouble that she knows of, but on questioning him, I find that he had a chancre a number of years before, although he had regarded himself as cured, having been energetically treated. The customary treatment overcame the roseola in a short while, and what was of more importance to her, the joint pains which were the occasion of her consulting me, and she was soon comfortable in mind and body. Apropos, of this I am minded of an observation of Fournier's, to the effect that women are less crushed by the announcement that they have syphilis, than are men. The man often trembles, pales, and faints when told that his rash is caused by syphilis, where the woman in like situation, takes it with a surprising coolness. I presume that it comes from long practice in suffering the blows of the male. The spirit of Griselda lives in her sisters of to-day.

Another case exhibits strikingly what I am trying to bring out, for the reason that I took quite a complete history before proceeding to the physical examination, and one notices in the patient's own statement of his case, how all of his symptoms are subordinated to the one symptom of pain.

A. B. is aged 24. Previous personal and family history contain nothing noteworthy. Present illness is of 2 or 3 months standing. First noticed chill and fever, accompanied by loss of weight. Had a lump in the right groin which was opened. This gave him little or no trouble. Coughs a good deal, especially in the morning. Severe pain in the head every night. At times this pain is unbearable. Nothing that he has taken has helped him. His back is weak and aching. He has severe sweats at night. His appetite is fair, and he sleeps when his pain will allow him. In appearance he is pale, hollow-cheeked, and in every respect presents a typical picture of rapidly developing tuberculosis. The one symptom which did not fit into the picture, the lump in the groin, he passed over as of small importance.

On stripping him for chest examination, however, he displayed a widespread maculo-papular eruption. "Well," said I, "when did you have your chancre?" "Oh, that was over four months ago." Inguinal, cervical, and epitrochlear glands were much enlarged, and in all ways he was a classical secondary syphilitic, but after his bubo had healed he paid no attention to any of his symptoms, until the pain in the head and eyes drove him to consult a physician. Appropriate treatment brought the usual spectacular relief. Here again pain was the essence of the trouble, in the mind of the patient.

Now, all of us know that pain may be a prominent feature in the secondary period of lues, no textbook fails to mention it, not even the compend, and some, like the treatise of Fournier, devote chapters to the subject. The pains are divided and subdivided into types, subtypes and varieties, and each is minutely discussed, but the fact of the matter is, that secondary syphilis is usually regarded from the standpoint of its skin manifestations, which of course are fascinating in their variety and picturesqueness, and the other symptoms are apt to be relegated to second place, or entirely unplaced. How many men save the specialists think of syphilitic fever? As a rule when we think of secondary syphilis in the abstract, there jumps into the mind

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

a picture of a patient with a spotted skin, a sore throat, or some similar surface lesion.

For this reason it seems to me worth while to emphasize in passing, and with the general practitioner chiefly in mind, the dominant role that pain may play in secondary syphilis, viewed from the standpoint of the patient.

As we pass over any accustomed road, features of the landscape, salient enough in themselves, may be unheeded for this reason or that, or for no reason at all, until one day, or two or three days in succession, something calls them sharply to our attention, and we are jarred into a mild astonishment that we have ignored them hitherto. This perhaps has been my experience, and as human experience is rarely unique, and will be repeated in the future, it seemed to me worth while to lay stress on the importance that pain may assume during the course of the second stage of syphilis.

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## BRIEF NOTES ON SKIN DISEASES IN THE HAWAIIAN TERRITORY—(THE SUN A MODIFYING FACTOR).*

By HARRY E. ALDERSON, M. D., San Francisco.

These few cursory observations were made by the writer during several months' residence in Honolulu (1907) and a later visit (1909), in the course of which time he saw numbers of patients in the various institutions and hospitals and in the private practices of friends. These observations have been corroborated by many letters received from practicing physicians scattered through the various islands of the Hawaiian group. The majority of these physicians, however, are located in or near Honolulu.

The even, balmy climate of Honolulu makes conditions most favorable for all kinds of life from the highest forms down to the bacteria. The sun through its actinic rays undoubtedly has its effect on the skin. These two factors are directly responsible for the manner in which certain dermatoses appear in that clime. That thermal conditions influence more or less all cutaneous eruptions, and very markedly some, cannot be denied. The effect of the extremes of temperature in modifying these phenomena is familiar to all,—the hastening of the appearance of an exanthem by a hot bath is an occurrence of common observation. One effect (and a most important one) of a constant increased temperature with moisture is seen in the ready growth of the various bacteria and other organisms that find epithelial tissues a favorable culture medium. In Honolulu, with her even, warm climate, one would naturally expect this class of cutaneous diseases to be very prevalent,—and such is actually the case, particularly among the poor class. The various grades of staphyloccia and impetigo are exceedingly common and often seen in severe form. Among the poor class it is unusual to see an individual without superficial pus lesions somewhere. Ordinary cuts or abrasions, unless thoroughly treated, are almost invariably infected,—and this is not due to dirt alone, because bathing is universally indulged in, and frequently, too. Some of the worst cases, however, are seen in the dirty individuals who do not take so kindly to water because swimming involves physical exertion. This class comes from the lowest stratum, of course. Besides the ordinary pus infections, scabies and tinea are very common. Naturally, parasites of all kinds thrive.

The prevalence of leprosy is well known. In the Hawaiian Territory there are recorded 764 lepers. Although the unfortunate victims of this disease are seen all over the world, by far the greatest number of cases are found in endemic foci in tropical and semi-tropical climes; for example, India with 97,340, Japan with 40,000, Philippine Islands with 2330, Java 15,000, Indo-China 10,500, United States of Colombia 4152, Argentine Republic 12,000, as against Iceland with only 200, France with 246 and Germany with 28.

The writer saw in Honolulu a surprising number of cases of pompholyx. Whether this condition is due to a bacterium or to some disorder of the sweat glands, or both, the fact remains that the conditions most favorable for its development are present, namely, heat and moisture.

Some dermatoses are modified, not by the heat of the sun but rather by some other effect of its rays. In the Hawaiian Territory senile keratoses, various other precepitheliomatous conditions, basal cell epithelioma and cutaneous neoplasms in general are extremely rare. These conditions are common complications of senility in less sunny climes, and people live to a ripe old age in Hawaii, so it seems reasonable to assume that this scarcity of senile degenerations of the skin is due, in part at least, to the effects of the actinic rays of the sun. Of course, the absence of irritating factors, such as harsh winds, sudden changes in weather, cold and dust, undoubtedly have some influence.

Lupus vulgaris and other cutaneous tuberculides are extremely rare. It cannot be denied that the sun's beneficent rays are a factor here also. In our own California, where so many of the afflicted tuberculous come for relief, cutaneous tuberculosis is rare when compared with its prevalence along the Atlantic seaboard and in places less favored by sunlight throughout the year.

In such a uniformly warm climate as that of Honolulu the skin is naturally more or less hyperemic and moist most of the time. It is due to this state of affairs that the use of the Roentgen ray demands extreme care and vigilance, for under these circumstances radiodermatitis develops very easily. This was proven in a number of unfortunate cases where exposure was not unduly prolonged (as measured by standards elsewhere) and severe burns resulted.

The foregoing, which is intended merely as a brief preliminary report, is based on personal observation of numbers of patients of all kinds and supported by the testimony of physicians from all over the territory, and the following conclusions seem to be justified:

Climatic conditions can greatly modify various diseases involving the skin.

The sun's rays seem to have an inhibitory effect on the development of some dermatoses, notably senile keratoses, precancerous conditions, basal cell epithelioma and other cutaneous neoplasms, and the tuberculides.

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* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

## SYMPOSIUM ON THE PROSTATE.

Fortieth Annual Meeting of the Medical Society of the State of California, Sacramento, April 21, 1910.

## ACUTE AND CHRONIC PROSTATITIS.

By VICTOR G. VECKI, M. D.

Until a few years ago the anatomy, physiology and pathology of the prostate were not considered of much importance. In 1888 it took quite a while to search for literature on the subject, and when all of any importance was collected, the reading did not take very long. I defy any one to attempt the gathering of all the scientific productions on the subject written since. I defy also any one to condense into a ten minute paper the subject of acute and chronic prostatitis, and you will kindly forbear if I just run over the subject cursorily.

The differences in the anatomical description of the prostatic gland which we find even in textbooks can easily be explained by the almost regular individual differences, and by the almost incredibly frequent pathological changes. Our real difficulties begin when we enter upon the discussion of the functions of the prostate.

Of course the physiology of the prostatic gland is perfectly clear to various excellent physiologists and urologists, the trouble is only that there is such a diametrical divergence of opinions and even of results in the most essential experiments and deductions, so that we must come to the conclusion that some of the things that seem to be so clear to several scientists are not correct.

We must agree with Reynolds when he claims that we are unable to say definitely what the exact function of the prostate is, though it is now generally conceded that the physiological function of the prostate is almost exclusively a genital one. But even Nagel when explaining the functions of the prostate in his handbook of physiology is rather guarded in his statements, just saying that the development of the prostate being characteristically different according to the different ages points distinctly towards its relations to the sexual activity.

We learn by our clinical experience that however things may be, the prostate has an important part in the sexual life and also in the act of micturation. In the latter regard its office may be of no importance under normal circumstances but jumps into great prominence as soon as patholigical changes have taken place.

In acute inflammations we are surely tempted to consider the prostate to be a urinary organ, and are not surprised that once the name of orbicularis vel sphincter urethrae for both the prostate and the prolongation around the membranous urethra was proposed.

The part which the prostatic secretion has in regard to the semen is, in spite of numerous interesting and meritorious experiments, not quite clear, and it is rather significant that even the chemical reaction of this secretion, and its importance as to the vitalization of the spermatozoa is not an undisputed fact, although we know that necrospermia is a frequent consequence of prostatitis.

Thus we may understand why the modern urologists feel compelled to return again and again to the study of the prostatic gland. Physicians told me repeatedly that when referring a case to a urologist they are almost invariably told the patient has prostatitis. But we know that prostatitis is the most frequent complication of gonorrhea, that gonorrhea is the most frequent disease, and that prostatitis is most difficult to cure and our fellow practitioners may easily understand and also forgive that the diagnosis of prostatitis is so frequently made.

So long as the gonococcus has not invaded the prostate the gonorrhea is amenable to treatment, once in the prostate the way of invasion of important organs is open by the road of the bladder to the ureters and kidneys, by the road of the so-called vas deferens, which is no vas but a duct, to the epididymis. Wolbarst emphasizes with right that the prostate must be examined in every case of gonorrhea before the patient is discharged and that the condition of the prostate must be ascertained from time to time in the course of the disease, and I am sorry that he does not tell us what he does to nip in the bud time and again "what might have insidiously become a chronic intractable gonorrhea." It was my experience that when the gonococcus once has invaded the prostatic gland, there is no more nipping in the bud to be done by the physician, nature may accomplish it if there is no interference by the patient's misconduct or too strenuous a treatment.

The symptoms are mostly clear in cases of typical acute prostatitis, and then a diagnosis is easily made, one can even go so far as to differentiate between a catarrhalic, a follicular and a parenchymatous form of inflammation, but as a rule the acute stage, the actual invasion of the prostate is not so typical, the symptoms are very light, the patient hardly pays any attention to them, occasionally telling his physician of an increased frequency in urinating, and of a final disagreeable sensation at the end of each micturation; the more or less developed symptoms of tenesmus. And thus it happens that the first invasion of the prostatic gland is almost regularly overlooked, and so much more regularly because cases of fresh gonorrhea that are properly treated, by carefully observing experts, seldom develop prostatitis.

When the symptoms of an acute inflammation are obvious and violent, principally in cases of follicular or parenchymatous inflammation, even an energetic practitioner may relent and give the afflicted one a chance, in the great majority of the mild cases of acute catarrhalic prostatitis the treatment which did not prevent or probably even caused the invasion of the post urethra is continued, and

the fate of future misery is sealed for a great many men.

With the exception of the not very frequent cases of aseptic prostatitis, the consequence of habitually interrupted coitus or masturbation, prostatitis is always caused by propagation of an inflammation in the urethra.

When we ask how does this involvement happen and what is the immediate agent causing it, how does this agent act and behave? we reach the biggest snag of the whole prostatic question. No doubt the gland is being invaded by a germ. In acute gonorrhea we have the wily gonococcus, and no matter what Albaran may say, it must be the gonococcus that invades the prostatic gland. What happens to the microorganism once located in the gland is at present hard to say. Some think the gonococcus may persist for many years imbedded somewhere in the prostate, and others are of the opinion that the gonococcus makes room to other forms of bacteria.

The question is not so simple as some of our fellow-workers think. The process cannot be tabulated so nicely as Notthaft has done, and I dare to say that the study of this phase of our subject is far from being clear. The task to investigate and to systematize the bacterial geneology of the prostate may seem very easy, is extremely attractive, but no doubt is worthy of a scientific Sisyphus.

More cases one examines in every direction, more smears one inspects under the microscope, more cultures one makes, more perplexing problems one meets. Dr. Philip Rahtjen was very enthusiastic when I proposed to him that we should go to work and find out all there is to the living germs in the prostate. We were careful to obtain the real and pure prostatic secretion, and in every case several smears were microscopically examined, and at least two cultures were prepared on blood-serum, blood-agar, agar-glycerin or Wertheim medium. While we are at our task since October last, and have fully investigated over twenty cases, we know that we are far from knowing all there is to the living germs in the prostate. It would lead too far to enter into the details of our findings, they will be reported later, but we are even now sure of the following facts: In the search for pathogenic bacteria the microscopical examination of the prostatic fluid is not sufficient, cultures must be made, because a microscopical examination of the smear may show no pathogenic bacteria, and yet after 24 hours we see on the culture media an abundant growth of staphylococci and even gonococci.

The microscopical examination of the smears, mainly, however, the cultures prepared from the secreta are frequently surprising and very often not at all in conformity with the clinical symptoms. Gonococci, ordinary diplococci and staphylococci often appear to have a peculiar and intimate relationship to each other, and it is quite probable that the medium in which these organisms grow, whether that afforded by the diseased prostate, or any other, exerts a transforming influence and converts one form into another. This theory is so more attractive as it would fully explain the frequent perplexing changes in the clinical symptoms of chronic prostatitis. We have further found that in the absence of gonococci there appear almost invariably diplococci, morphologically like gonococci, but Gram positive.

In connection with gonococci there are always staphylococci present.

After irritating local treatment the staphylococci and gonococci increase in number considerably.

After injections of autogenous vaccines the number of bacteria regularly decreases, but we never observed their complete disappearance, and it seems as if a prostate once invaded by cocci can never attain its sterility again.

We may easily understand now how Wolbarst could find gonococci in a prostatic secretion after using a deep instillation of a 1% solution of nitrate of silver, though 13 previous examinations showed none, and we can only wonder at the enthusiastic reports of others who perform miracles with stock-vaccines.

Prostatitis is certainly a most serious complication, even optimists must concede that, to say the least, it is difficult to cure, prevention is therefore most worthy of consideration.

All dangerous and unnecessary instrumentation in the inflamed urethra should be avoided, and when absolutely necessary done only in the most careful, thoroughly aseptic and skilful manner. The various playthings, called endoscopes, sold by traveling salesmen, and with which the most skilled could not see a blamed thing, should be thrown in the fire before they are used on the unwary confiding patient ut aliquid fiat.

And as at all occasions, I repeat here most emphatically, that any solution which could not be applied to a person's eye has at no time any business in anyone's urethra.

The deep injections or installations of various strong solutions into the posterior urethra directly to the complicated structure of the colliculus seminalis, this baneful inheritance from Lalemand, modified by Ultzman, clinging against all reason to modern urology is certainly responsible for many a case of grave prostatitis, and should be relegated to the ash-heap of old superstitions.

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## CAUSES AND DIAGNOSIS OF PROSTATIC HYPERTROPHY.

By M. KROTOSZYNER, M. D., San Francisco.

The etiology of senile prostatic hypertrophy was for many years past the object of careful study and investigation. Since the various classifications, based upon the histologic nature of the enlarged gland, did not prove satisfactory to critical etiologic research, it was not surprising that year after year renewed efforts were recorded in the literature, which if they did not solve the problem, at least were apt to throw more light upon this obscure field of investigation. The research work done a few years ago by Ciechanowski (1) which was carried out on a large scale, gave a new impetus to a more concentrated study of the subject. Ciechanowski considers hypertrophy of the gland to be due

to an involvement of its acini from which inhibition of their secreting function results, a condition which, in the great majority of instances, occurs on the basis of a previous gonorrheal infection. Also Bolton-Bangs (2) and Crowell (2a) believe prostatic hypertrophy to be due to an inflammatory process. In Bolton-Bangs' opinion the main cause is an hyperemia due to chronic irritation (masturbation, excessive sexual excitement, etc.). A similar opinion is voiced by Rothschild (3) who from his own investigations concludes prostatic hypertrophy to be the end—result of a chronic prostatitis, which, obviously, in most instances is caused by a previous gonorrheal infection. In direct contrast to these views are the results of Raskai's (4) investigations who found only two hypertrophies among 98 old men with a definite history of a previous gonorrhea, while of 139 men with no gonorrhoic antecedents 21 offered the subjective and objective symptoms of prostatic hypertrophy. The etiology of this condition lies, according to this investigator, in the multiplicity of the physiological functions of the gland, which it exerts upon the organism; its hypertrophy is not due to overactivity, hyperemia or inflammation, but is caused by multiple irritaments through which, in the aged, an enlargement of the organs takes place. H. Young (5) in a recent publication, denies any etiologic relation of chronic prostatic or gonorrheal infection to prostatic hypertrophy. Bruni (6) examined over 1000 inmates of the various poorhouses of Naples between the ages of 46 and 97 with a view to obtain some reliable facts upon the etiology of prostatic hypertrophy and arrived at the following conclusions: All generally accepted etiologic factors (sedentary habits, horseback-riding, sexual excesses, alcoholism, urethral stricture, etc.) are negligible quantities from an etiologic standpoint, the real cause of the condition is as yet unknown and particularly the question why hypertrophy generally occurs in advanced years cannot be answered correctly.

It is a strange coincidence that an almost equal opinion was ventured 50 years ago by the late Sir Henry Thompson (7) who in his admirable monograph upon the diseases of the prostate points to the fact, that the best proof of our ignorance as regards the real cause of prostatic hypertrophy is furnished by the manifold etiologic factors which are made responsible for its existence.

In looking over my comparatively small material in order to ascertain the relationship of a prostatic hypertrophy to gonorrhea I am forced to the conclusion, that a previous inflammatory condition of the gland (gonorrheal prostatitis) should be eliminated from the list of causative factors.

About 25 years ago Launois (8), one of Guyon's gifted pupils, published the results of his careful investigations upon the subject. According to this author the enlargement of the gland is simply a local manifestation of an arteriosclerosis which has invaded the whole genito-urinary tract. The fallaciousness of this view, which at first was generally accepted by the French school, was proven by careful anatomical investigations done by various authors. Especially the work of Casper (9) who found only 9 cases of endarteritis of the bladder vessels among 28 cases of hypertrophied prostates and that of Motz (10) who found the same small number of cases with sclerotic changes in the vessels of the urinary tract among 31 cases of senile prostatic hypertrophy, have proven that hypertrophy and arteriosclerosis are not rarely coincident lesions in old men but that no common etiologic link exists between these two conditions.

From the foregoing brief review of the most important publications on the subject of more recent date we may conclude, that a cause for the etiology of prostatic hypertrophy is still absolutely unknown. Personally I think Casper's (11) views upon this subject as coming nearest to the truth. According to him hypertrophy of the prostate represents an abnormality but no disease, which only becomes a condition of pathologic importance as soon as through the enlargement of the gland certain untoward and distressing symptoms are apparent in the urinary tract.

This leads to the consideration of the diagnosis of the condition. My experience with the symptomatology of prostatic hypertrophy has taught me that all symptoms from the beginning up to the last stages of the malady including its sequels and complications whether they be of a mechanical or infectious nature are dependent upon the impediment to the urinary flow caused by the change in the size or shape of the prostate. Digital examination from the rectum, which many consider one of the most important diagnostic means, has often disappointed me. It is safe to say, that the ball-like shape of the gland and absence of the raphe between both lateral lobes are characteristic of hypertrophy. I have though been surprised to ascertain through rectal palpation enormously enlarged prostates with few or no untoward urinary symptoms and it is well known that a comparatively small gland may be found in the presence of very distressing symptoms. In such cases v. Frisch (12) advises to resort to combined or bimanual palpation. With the patient in the dorsal posture the index of one hand is introduced into the rectum, while the other hand tries to approach the finger by pressure upon the symphysis. In lean individuals and with their abdominal walls relaxed it is possible, by these means, to ascertain the size and shape of the gland. If this maneuver is carried out with the patient's bladder full, one is able from the size of the fluctuating tumor, which is palpable between both hands, to approximately estimate the amount of residual urine. This procedure may occasionally give valuable diagnostic data in cases of the initial stage; for later stages I prefer to ascertain the size and configuration of the gland with the finger in the rectum, while with the other hand a steel-sound or cysto-

scope, the beak of which lies in the prostatic urethra, is gently moved about. The introduction of a steel instrument should, for obvious reasons, be omitted as long as possible and anxious as the modern urologist may be in almost all cases of urinary disturbances to establish a correct diagnosis through the evidence furnished by the cystoscope, he ought to refrain from the use of this diagnostic means in old prostatics of the first stages, whenever there exists a reasonable hope for the betterment of their condition by an expectant and conservative regime.

Whenever though the malady has entered into the latter stages the introduction of a steel instrument and particularly that of the cystoscope is strictly indicated for diagnostic purposes. I consider cystoscopy in old prostatics when performed lege artis and on the basis of strict indications to be the most important aid towards a correct interpretation of the subjective and objective symptoms. This method of examination though should always remain in the hands of the well trained and experienced urologist, otherwise more harm than good will result from it. Very often a poorly executed cystoscopy on an old prostatic with insufficient power for bladder-expulsion will be followed by a hemorrhage from the vulnerated prostate, or a cystitis or even an ascending renal infection. It is therefore not advisable to cystoscopize these patients at the office and I insist upon the procedure being carried out, if possible, at the hospital after a careful preparation. It is not in the scope of this paper to dilate upon the cystoscopically characteristic and important findings. In many cases I have found the graphic determination of the different parts of the vesical outlet as indicated by Young of great aid in order to ascertain the exact points at which the impediment to urination was located. The differential diagnosis between arteriosclerosis of the bladder vessels and true prostatic hypertrophy was only possible by cystoscopy in two of my cases. Complications of hypertrophy with vesical stone, tumor, pyelitis and pyonephrosis can, in most instances, only be diagnosed through the aid of the cystoscope. From the intensity of the trabeculosis and the size and number of diverticula as seen cystoscopically, one is enabled before operating to arrive at a fair conclusion upon the post-operative bladder-function.

Schlaginweit's retrograde cystoscope has not proved in my hands as useful from a diagnostic standpoint as it promised at first. I could always ascertain a thoroughly satisfactory view of all parts of the vesical sphincter with the ordinary Nitze instrument. I would advise though on account of the frequent smaller or larger hemorrhage incidental with the introduction of a steel instrument in these cases, to always use the irrigating cystoscope; by these means the sanguinolent bladder fluid can quickly be changed to a clear one and by having the bladder filled gradually while looking through the cystoscope one can obtain a perfect view of the trigone with its ureteral orifices and look into an existing recessus.

Hemorrhage from some point of the urinary tract is a very frequent complication of prostatic hypertrophy. This fact needs to be accentuated because in the minds of many physicians an hematuria which occurs in a prostatic at once sets up the suspicion of cancer. It is well therefore to recall the statement of such an experienced authority as Guyon (13) that the prostate is the most frequent source of bleeding from genito-urinary tract. Abnormal vascularization or arteriosclerosis are the main causes for this phenomenon. I have observed hematuria in all the three stages of prostatism and in not a few cases my tentative diagnosis of malignancy was fortunately not borne out by the future course of the disease or by its postoperative findings.

This leads to the consideration of the differential diagnosis between simple hypertrophy and malignancy. Everything of recent note on this subject can be found in the various exhaustive publications of Young (14) who lays particular stress upon the palpatory findings characteristic of prostatic cancer, which he has found to be in evidence in 78 of his 111 cases of prostatic carcinoma. Since, according to this author, in one of four cases of prostatic hypertrophy exists malignancy, the necessity of an early diagnosis cannot be over-estimated.

I am fully aware of the fact that I have only superficially touched upon a few and entirely omitted to mention many other important diagnostic points of prostatic hypertrophy. An attempt to cover this large and exhaustive subject in the short space of time at my command appears obvious. If though I have succeeded to give the impetus to an active discussion, I shall feel amply rewarded for my modest efforts.

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## PALLIATIVE TREATMENT OF PROSTATIC HYPERTROPHY.

By E. G. M'CONNELL, M. D., San Francisco.

In taking up the subject assigned to me I do not deem it advisable to enter into the pathology and etiology of enlargement of the prostate. To hold to the theory of Guyon that it is due to a general arteriosclerosis, or advance the statement of Harrison regarding compensating hypertrophy, or argue the conditions are due to adenomatous or fibroid changes, as all these will no doubt be included in the other papers.

As the catheter enters largely into the handling of all cases of prostatic hypertropy, I consider it important to call attention to the character of the urethra and the changes that take place in prostatic hypertrophy. Enlargement of the gland takes place in an antero-posterior direction, or more strictly speaking, in a posterior one. On account of the prostate being more or less firmly fixed at the apex the growth is toward the bladder. As a result of the growth upward and inward the vesicle orifice of the urethra is raised so that the prostatic urethra is more or less bent upon itself, the posterior portion forming something of an angle with the anterior one and interfering with the passage of certain catheters. The unequal growth of the lateral lobes at times will deviate the urethra from side to side, or where the growths are comparatively equal you have formed at times the so-called bladder bar.

The patient presents himself usually with a history of sudden retention following some excess or exposure. The retention being relieved, he has probably remained comfortable for many months when another attack has left him with more or less frequent micturation and some pain. Or your case may complain of frequent urination, and especially of the fact that he is disturbed at nights several times on account of having to urinate; or again the patient presents himself with the statement that he has to pass urine every few minutes. Ask him if he empties the bladder and he will assure you that he does, that he is urinating all the time. It is in this class of cases where the distension has been gradual and no infection has taken place from without, that you will find the large amount of residual urine, one case I remember having sixty-four (64) ounces. No matter what the history of the case, I first determine the extent of enlargement of the prostate and the amount of residual urine. After the patient has passed all the urine he can naturally, I place him horizontally upon the table and after carefully cleansing the parts, introduce a sterile silver catheter. With this I am able to determine if there is a stricture of small caliber; the changes in the urethra due to growth of the prostate; the position of the shaft of the instrument relative to the axis of the body, and the distance traversed before the urine flows. After entering the bladder you are able to determine the character of the bladder wall and the presence or absence of stone. With the catheter still in place and the finger in the rectum you are able to map out more carefully the extent and character of the prostatic enlargement. The fluid removed will give you the exact amount of residual urine. With the patient in the horizontal position at no time have I ever experienced any trouble from removing all the urine in the bladder.

This, in an offhand way, seems easy, but at times you may experience considerable difficulty in introducing your catheter. Remember, *above all things* that *no force* should be applied to a catheter; be gentle, be patient; time should ever enter into an examination of this kind. If you are in a hurry; if you have an appointment; by all means defer the examination until another time. As gentleness is of paramount importance in examining the urethra, so it is in examining the rectum. Insert the finger slowly and gently, for remember you probably have more or less of an inflamed condition, and undue force will cause your patient considerable pain, and he at once brands you a brute.

If your examination cannot be finished to your satisfaction in one sitting, either on account of obstructions or fear on the part of the patient, be not discouraged, you are dealing with no trivial condition and if necessary make repeated examinations.

You will at times encounter certain cases of so-called hypertrophy with or without residual urine. They are not cases of true hypertrophy, but are due to a chronic prostatis. They present a large, smooth, spongy mass and as a rule offer no obstruction to the passage of a catheter. Under massage they rapidly diminish in size and all residual urine disappears. It is this class of cases that often starts a man on the road either to success or failure.

All cases of prostatic hypertrophy should be given a trial with the catheter. If they can be taught cleanliness, have a tolerant bladder, can be comfortable and happy and not have to pass a catheter to exceed four times in twenty-four (24) hours, then life for them is well worth living.

The beginning of catheter life is a grave period, and too much time and patience cannot be spent in properly instructing the patient and fitting him with the proper instruments. Do not give him a catheter and turn him loose, for you will do more harm than good. Teach him to be clean; drum it into him, first, last and all the time. Then select his catheter; if a soft rubber one will answer, well and good; but get the right kind: one with a solid end and smooth eye; show him how to wash it with soap and water after use and how to boil, not cook it. If your soft catheter will not go on account of the bend in your prostatic urethra, use a coudé or bi-coudé, but don't select a cheap one that will break about the third time it is used. Get the best; something like a Mau, Weis or Porges; instructing the patient that the point must be up, and mark the instrument so he can tell where the point is traveling. Rarely you will find cases where the silver catheter must be resorted to, but when you do, you must watch your patient most carefully until he becomes proficient in its use to prevent his wounding the deep urethra, producing false passages, etc.

The complications that arise as a result of prostatic hypertrophy I will not touch upon except in the briefest way. Cystitis, hematuria, stone, etc., you are all familiar with, but the effect on the ureters and kidney I think should be dwelt upon. Owing to the way the ureters enter the bladder, the urine flows from the kidneys more or less unobstructed, but when the bladder becomes dilated, the ureteral openings are compressed resulting in back pressure upon the kidney. When a man enters upon a catheter life, he is indeed fortunate if he cannot pass part of the urine naturally, for then he

is dependent upon the catheter and the bladder is emptied at regular intervals and there is not that overdistension at times, which produces the back pressure in the kidney and the resulting disturbance in blood pressure.

The regular life in this class of cases must be insisted upon regarding exercise, sleep, diet, drink, etc. However, I do not believe where a patient has been more or less accustomed to alcohol all his life that he should be absolutely denied an occasional whisky and water, for the entire withdrawal of stimulants does more harm to his general condition than an occasional drink will do the bladder.

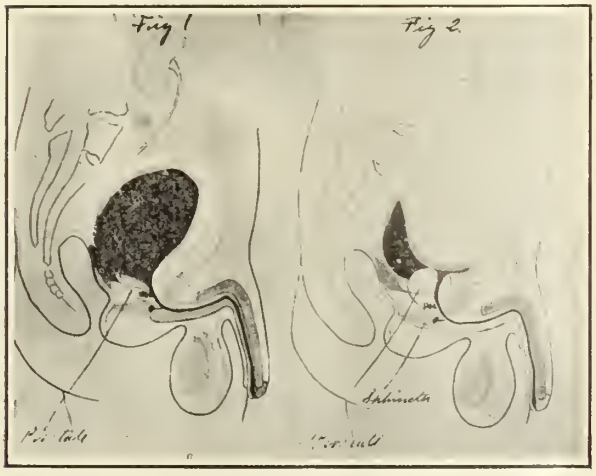
In conclusion I would repeat, give all your prostatic cases a chance with the palliative treatment; if the result is not what you hope, then you can resort to radical procedure, but don't wait too long.

## OPERATIVE TREATMENT OF PROSTATIC HYPERTROPHY.

By G. S. PETERKIN, M. D., Seattle, Wash.

I have been asked to present, on Operative Treatment of Prostatic Hypertrophy, an interesting, instructive ten minutes' paper—asked to present such a paper before co-workers, specialists in urologic work. It is indeed a great honor, but it is not with pleasure, but timidity that I accept the task—knowing my inability. Your program committee has, however, made the paper interesting, by setting the time limit.

Enlargement of the prostatic gland, per se, is not the cause of the symptoms of prostatism; it is the extent of obstruction produced to the outlet of the bladder, plus or minus microbic infection. The obstruction is mechanical, so it requires mechanical means to remove it—operation; therefore, operative treatment for prostatic hypertrophy is *not* the *radical* treatment of this pathologic condition, but the *rational*. That the obstruction is mechanical, you can see, by comparing these two diagrammatic drawings: Fig. 1, shows the position of the bladder




outlet—prostate normal; Fig. 2, prostate enlarged; urethra elongated; outlet, elevated. The bladder contracting, outlet is closed mechanically, by bladder wall; a pool of urine remains the focus for

Figure 3.
A middle lobe enlargement of prostate.

microbic infection—size of pool (amount of retention) depending upon the size and character of the prostatic enlargement.

In the early history of Oophorectomy—ovaries diseased—total enucleation; to-day, we have conservation of ovarian tissue.

All forms of prostatic enlargement are not the same. You have all seen this form of enlargement (Fig. 3). Why not remove this lobe, as you would a bladder tumor; excise the pedicle; close the suprapubic wound; have complete recovery from operation—that is, a well patient, in practically six days; do rational, conservative, prostatic surgery?

In prostatic hypertrophy, as previously stated, we have various forms of enlargement. We have complications—for instance, calculi, sacculations, as diagrammatically illustrated in Fig. 4, drawn from a pathologic specimen, etc. We have conditions simulating prostatism. Four months ago, I was asked to operate for prostatic hypertrophy, a similar diagnosis having been made by five physicians—accepted the diagnosis; saw the patient on the operatnig table; opened the bladder, suprapubically. My findings, a papilloma the size of a small pigeon's egg, attached by a pedicle, one-half inch long, to the left side of mouth of bladder, anterior to left ureteric opening, acting as a ball valve; prostate, normal. Conditions like this may simulate prostatic hypertrophy, as well as contracture du col, etc., so the surgeon who is going to give not only a correct prognosis and advocate logical after treatment, but also do accurate as well as conservative surgery, on the prostate, must know the exact existing conditions previous to operation. In other words,

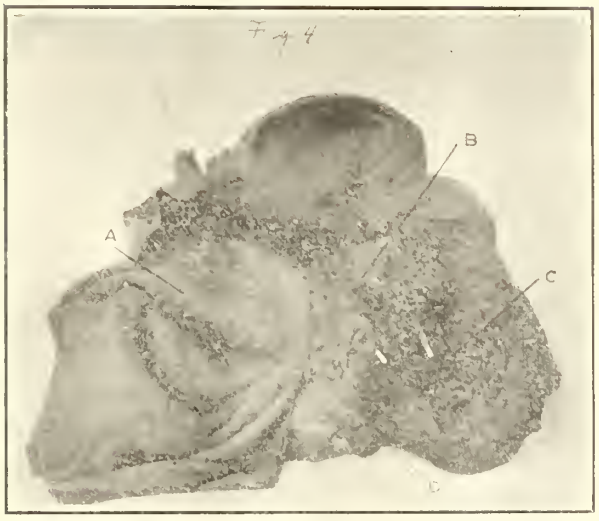



Figure 4.
A. Center of sacculation.
B. Opening of same into bladder.
C. Contracted bladder.
D. Prostatic urethra.

a thorough cystoscopic examination is indicated in every possible case of prostatism on which the cystoscope can be used.

Experience is the best teacher, as to whether the operation should be suprapubically or perineally performed. If a man have expert teachers and a free clinic to draw from, I might advise him to do perineal prostatectomy; if, however, he has limited experience and desires to give every patient upon whom he operates the best possible results, I advise suprapubic prostatectomy. Suprapubic prostatectomy will give as limited a mortality as does perineal and it will give a larger percentage of complete recoveries—that is, without incontinency, than will perineal prostatectomy in the hands of a man who operates on the prostate infrequently.

*Two Points in After Treatment.* First: Chronic cystitis itself will cause retention. Most prostatics operated upon have chronic cystitis. The first stage of chronis cystitis, pathologically, is hypertrophy of the muscular fibers from overwork; the second, sclerosed hypertrophy; the third, atrophy.

This signifies what? That after a successful, either perineal or suprapubic prostatectomy, chronic cystitis having existed, irrigation of the bladder, with a stimulating and antiseptic solution by the patient himself, under hydrostatic pressure, performed psychically, will be of immense benefit, in increasing the bladder capacity and if continued for a consederable length of time, will increase the percentage of complete recoveries.

By psychic irrigation of the bladder, under hydrostatic pressure, I mean that the patient be taught, as every patient can be taught, to permit the fluid to enter his bladder by voluntarily opening the compresser urethrae muscle, instead of forcing it by hydrostatic pressure, beyond this muscle; then irrigation of the bladder is not harmful, but beneficial and will accomplish results aimed at.

Second: After operation, cystitis still existing (it usually does), use not only psychologic hydrostatic irrigation, but autogenous vaccines, which are beneficial, especially if the infection is due to the bacillus coli.

What has been the bugaboo that has prevented the advance—and it does even to-day—of prostatic surgery, especially prostatectomy, and makes many a man with an enlarged prostate suffer continual pain, be a burden to himself and others? Is it the fear of operation alone or is it the fear of the loss of his sexual power; or that people will think he has lost this power?

One man in this country, Dr. Hugh Young, has made an international reputation for perineal prostatectomy; made it the operation of election. Is it an operation of election, because this operation is less dangerous and difficult to perform, or is it the belief that the ejaculatory ducts are preserved—therefore, the sexual power? It is, in my opinion, this latter belief that the sexual power is retained; and this fact, more than any other, has given perineal prostatectomy its present status; but there is Freyer, with international reputation, who performs only suprapubic prostatectomy and makes a report of 600 cases which ends with these words, "Further, there is no diminution in the sexual power after operation."

What is the true inwardness of all this? Is the sexual power retained or has our knowledge of the part played by the testes in the sexual act been at fault? Let us consider some practical facts of general knowledge: First and foremost, the sexual power is much more psychical than physical. Secondly, daily, we see men who have double epididymitis, whom we know are sterile. Are they impotent? No. Seldom. By disease, the canal of the vas is closed mechanically and the testicular secretion is cut off. Mechanically, by prostatectomy, the testicular secretion may be cut off by closing the ejaculatory ducts. Why should a clean mechanical obstruction cause impotency, as against obstruction produced by disease? In my opinion, it will not. Again, does total ablation of both testes, after adult life is attained, render a man impotent? That it does not is well attested by the fact that, in China, eunuchs are made by ablating not only the testes, but the penis as well; for practical experience teaches that double orchidectomy alone does not prevent the sexual act.

Regarding the preservation of the sexual power, by perineal section, through retaining the ejaculatory ducts intact, let us picture a perfect operation, say, of Young's, and that the ejaculatory ducts are left intact. We know that after prostatectomy, the false capsule collapses and contracts. We know that the ejaculatory ducts are three-fourths of an inch long, running for that distance through the prostatic gland. When this contraction of the capsule takes place, is there any means of preventing the ejaculatory ducts from becoming so tortuous as to close the canal or the fibrous contraction that takes place, from mechanically obliterating their lumen? Who can say it does not? Freyer does not protect them; Goodfellow, who does perineal prostatectomy, does not protect them, and yet, both claim

that the sexual power is retained; but if the lumen of the ejaculatory ducts is obstructed, by either suprapubic or perineal prostatectomy, does obstruction of ducts cause impotency? We know it does not.

Taking into consideration the facts mentioned, is it the psychical belief that he is not impotent, or the fact that the ejaculatory ducts remain patent that causes a patient whose prostate is removed to continue to be potent? Personally, I do not think the patency or lack of patency of the ejaculatory ducts has anything to do with it. The retention of sexual power is due to a psychical suggestion and the man possessed of the belief in himself, in his sexual power, and that it will be retained, will not be impotent, and he who does believe he *will* lose this power, *will*.

This being a fact, it is our duty to teach that prostatectomy will not unsex; it is our duty, for the sake of the patient, so that when this operation is necessitated (suprapubically or perineally), the patient will retain his self respect and not fear that he will be "Oslerized" by either the suprapubic or perineal route; believing in his potency, he will retain power of initiation and be of value in the world's activities.

I repeat, in conclusion, operate for prostatic hypertrophy; operate conservatively, when possible; use a cystoscope before, hydrostatic irrigation and autogenous vaccines afterward; teach that prostatectomy, either suprapubic or perineal, will not unsex.

### Discussion.

Dr. J. C. Spencer, San Francisco: I have thought many times when taking part in the meetings of the Pacific Coast Branch of the American Urological Society, that the nub of this situation depends really upon how much was intended for the man doing urological work occasionally. The gentlemen whom we have heard read papers this afternoon have all handled their subjects well. The time has been too limited to cover the ground very thoroughly. I would like to bring out certain facts upon which they have already laid stress, and one is, for the occasional urologist to go slowly. If he is afraid or not sure of his ground, let him keep his hands off. Injudicious medication is so frequently complicatory of conditions which might have been handled differently at the outset, avoiding the distressing symptoms that some enthusiast, not fully cognizant of the possibility of over treatment, may cause, thus complicating the situation. Then the patient is eventually turned adrift or some urologist is asked to see the patient, and finds the situation complicated and the prospect of early relief from the symptoms removed. Dr. Vecki's remarks, that no solution too strong to be used in the eye should be used in the urethra is a piece of concentrated wisdom. I think few of us realize the individual susceptibility of our patients. Some people are intensely intolerant of nitrate of silver solutions. In some they produce a tremendous reaction and irritation and an over sensibility which ties one's hands for future treatment, and the results are unsatisfactory. The points brought out with regard to routine examination of all cases of acute prostatitis are very valuable ones. I think that every man who presumes to treat a gonorrhea is derelict in his duty if he does not go over the individual methodically and also examine his prostatic secretion. Unless one is reasonably skillful with the use of the finger (and I wish here to speak of the comfort to the patient if you will use a rubber finger-cot, well greased, when making the examination) in securing the prostatic secretion, you will frequently be misled. It is my experience that one is not easily able to demonstrate the micro-organisms in the secretion, as in long continued cases, the infection is liable to be mixed, and one is not able to find all the organisms. So it behooves you to rely upon the culture method. If a man is derelict in his duty and gives his patient a clean bill of health and that individual depends upon this statement, infection is often carried further. Within the last year one of our colleagues in the East accidentally stumbled across the fact that a staphylococcus bacterin used in the case of an individual who had a joint affection, without the gonococcus being demonstrated, (although he was known to have gonorrhea)—that the staphylococcus bacterin cleared up the symptoms immediately. I think that is a valuable hint for future experimentation. Statistics have been mentioned to you, the experiments made by a number of experimenters have been published. It is easy to present statistics, but they depend largely upon the man presenting them and the material from which they are collected. The statistics are too fragmentary and too widely scattered to be wholly convincing. With regard to the treatment of prostatic hypertrophy in a conservative way, Dr. McConnell's recommendations are practically the best that can be followed. In order to spare your patient as much as possible. A most careful painstaking instruction should be given him with regard to the cleanliness of his urethra and bladder and catheter. This will save much trouble. Cleanliness is essential. The comfort which the old man can get from conservative treatment and the sparing him the dangers which may follow operation, are greatly to be desired. In the matter of prostatic hypertrophy, a fact of importance is that the men who are doing the most skillful work and whose results are occasionally published to the medical world, all lay down an axiom, **the necessity for routine cystoscopic examination.** I wish to emphasize the point here that every one is not capable of making cystoscopic examinations. Gentleness is essential, also experience and the ability to translate what one sees. The average practitioner thinks he can insert the cystoscope, but it is not always as easy as it looks. An instance of the difficulties in this work was illustrated in the case reported by Dr. Peterkin of the papilloma in the bladder where a cystoscopic examination would have revealed the condition. With regard to operative treatment, the two men who have done more of this work than all other operators in the world, are Freyer and Young of Baltimore. Freyer is the chief high priest of the suprapubic method, and Young of the perineal operation. Personally I prefer Young's method, leaving the suprapubic route for selected cases. There are individuals who have enlargement of the middle lobe of the prostate in whom all that is necessary is to remove the middle lobe and then the Freyer method is the better. I would like to agree with Peterkin as to the potency in these cases, but the fact remains that these individuals who have had the ejaculatory ducts removed are the individuals who develop impotentia coeundi, and while I do not dispute the statement of Freyer, as to the potency of his operated patients, I would prefer the evidence at first hand from the patients. There are many men whose prostates become hypertrophied early in life but it is a cruel wrong to those requiring operation to deprive them of their potency by an operation, which does not spare the ejaculatory ducts.

Dr. Henry Meyer, San Francisco: I would like to make a few remarks in regard to the diagnosis of prostatic hypertrophy. In regard to the bimanual examination, mentioned by Dr. Krotoszyner, you can never determine with any degree of accuracy the size of the prostate. With the rectal examination alone, you get little information in some cases. Sometimes, per rectal examination, we find no enlargement at all, while on cystoscopic examination we find the prostate extending into the bladder,

causing great obstruction. Again we find large prostates where the patients have no symptoms at all. The best way to get the exact size of the prostate is by measuring the antero-posterior diameter, with the use of the instrument invented by Dr. Francis R. Hagner of Washington, D. C. It has a beak like a cystoscope and depressions in the shaft of the instrument, and with a finger in the rectum you can measure off the depressions. This is a very accurate way of determining its diameter. Again we have prostatic hypertrophy with little increase in the size of the organ, but the prostatic urethra is almost obliterated from pressure upward. That variety is very materially benefited and often cured by complete dilatation of the posterior urethra. In regard to the operative treatment for prostatic hpyertrophy, I do not believe any urologists to-day would remove the whole prostate if there was a small lobe with a pedicle, and as far as the different methods are concerned, there is no question but that, while one man prefers the suprapubic and another the perineal, the average urologist who does not have a great number of these cases would do better by selecting the suprapubic route. He sees then pretty much what he is doing and feels everything, the drainage is longer, the flabby bladder regains its muscular power to a great extent and much more perfect than in the average perineal operation. One variety of prostatic hypertrophy, where we find an obstructive band at the neck of the bladder, can be cured by the Bottini incision. This has not been mentioned and most men think it an operation of the past. I do not believe so, particularly in that class of patients where we merely have the band to deal with. If we use the prostatometer of Hagner for measuring the antero-posterior diameter, we know how far it is safe to burn, so that it is impossible to burn through the capsue of the prostate. Also with the control disc invented by Jacobi for the purpose of ascertaining the exact location of the incision, one is absolutely accurate in incising the most prominent situation. This is a most valuable procedure, and it will come into prominence again.

Dr. R. L. Rigdon, San Francisco: There are two or three points upon which I wish to touch, although they have been mentioned already. One statement made on the paper on prostatitis, I believe to be overdrawn. Dr. Vecki makes the claim that when the prostate once becomes infected it is practically never relieved of the infection, and further that the gonococcus is the offending agent in nearly all of these cases. In other words, the man who has once had gonorrheal prostatitis should be forbidden marriage. I believe that the experience of nearly every man who has done a good deal of work in urology is that in a proportion of these cases marriage may be permitted without danger to the wife or the prospective children. No one will go further than I, in discouraging marriage where such advice is necessary, but each case should stand upon its individual merits and not be decided by a general law.

Another point: Dr. McConnell advised that the catheter should be used in all cases of prostatic hypertrophy where possible. I think that we have all come to feel that a dogmatic statement is very apt to miss the mark. To say that all cases of prostatic hypertrophy should be given trial with the catheter, is not stating the matter as it should be stated. Every patient should be investigated very carefully, and some patients be given the benefit of catheter life. The majority of patients that are put upon the use of the catheter, should be so treated until they can be operated upon. I believe that the goal toward which our efforts should be directed should be the removal of the prostate by surgical measures. Another question is what operation should be done. There seems to be a tendency to say that this or that operation should be done regardless of the condition of the patient or the prostate. It seems to me the rational thing to do is to first determine what the general condition of the patient is and then be guided in the selection of our operation by what we find. In my experience the perineal route as advocated by Young is by far the best in a large number of cases. By this method when properly performed we can absolutely control what we are doing for the whole field is plain before the operator and he can leave or remove whatever he chooses. The functional results are remarkably good.

Dr. C. D. Lockwood, Pasadena: With regard to Dr. McConnell's paper on the conservative treatment of prostatitis, I wish to cite some difficulty which I recently had with a case. Up to two months ago I could say that I never had any serious results from catheterization in determining the amount of urine. The case was a man of 76 with a large amount of residual urine. After he had passed all the urine he could, I catheterized him, but first found that I was unable to pass a soft rubber catheter and then used a Mercier which had been sterilized and withdrew about a pint of residual urine, but still left a large quantity in the bladder. I found upon examination that the bladder was loaded with albumin and urged the patient to go to the hospital where I wished to establish a suprapubic drainage. The patient refused to go to the hospital and I heard nothing further from him for three days. Meanwhile he had called another physician, after having had a chill. He had passed urine which this physician had found contained a large quantity of albumin. I was called in consultation and I went not knowing that this was the same man I had seen. He was in a state of uremia and we did a suprapubic operation and drained the bladder. The man died six days after the first catheterization, from uremia. I believe that the first emptying of that bladder and the neglect for the following three days, precipitated the uremic condition and caused death. I think in the future I shall refuse to take the responsibility unless the patient will consent to go to the hospital. I also wish, in connection with this, to emphasize the importance of drainage prior to prostatectomy. A number of cases which I have seen, I have had where I have first done a suprapubic drainage preceding operation. With regard to the potency in these cases. I will speak from the experience of about 50 prostatectomies. I am convinced that a man is rarely ever potent after his prostate is completely removed and the ejaculatory ducts are closed. I believe that the pleasurable sensations come from the ejaculatory ducts. I believe that spermatozoa and the prostate are essential and I do not believe it is possible to completely remove the prostatic gland and preserve potency.

Dr. G. L. Eaton, San Francisco: I have been very much interested in the papers read here to-day. All of these papers related to prostatic hypertrophy and prostatectomy and I failed to hear any mention made of the after results which we often find after prostatectomy. Of the many men who have done this operation, who will be able to say he has had the same condition existing after that he had previous. I remember one case where the prostate was removed and the canal freed. There was no reason why there should be any residual urine, but there occurred a vesical paresis. We must take into consideration the nerve supply of the prostate. If your bladder has been dilated or contracted by this prostate gland, a certain amount of paresis takes place or an atrophied condition of the muscles, and a great number of these cases are going from bad to worse. With regard to the infected prostate and the use of stock vaccines, I have given some attention recently to the making of the autogenous vaccines made from all the bacteria grown from the prostatic secretion. I thoroughly sterilize the urethra and the glases in which I select the secretion, which I collect by massage. I then inoculate a tube of medium and place it in the incubator and from the different bacteria which grow I make an autogenous vaccine and inject my patient. I have

noticed very remarkable results. Of course, this treatment is at the experimental stage. I do not use a specific autogenous vaccine of one organism, but a vaccine made up of all the bacteria which grow.

Dr. Louis Gross, San Francisco: I have been very much pleased to hear these papers upon this subject. I think that the statement made by Dr. Veeki that we are oftentimes unable to rid the prostate, is well taken. All practitioners have found this to be the case time and time again. A case can be treated for years and still the condition continues. I hope that at some time, and probably in the near future, we will be able to do something with the autogenous vaccine. There are prostates that will not clean up. With regard to acute prostatitis, I desire to mention a case of an individual who had an acute gonorrhea with an acute prostatitis. The prostate was enlarged considerably and there was considerable pus there. No treatment of the posterior urethra availed. The epididymis was involved. I have in some cases, although this one did not show a sufficiently high leukocyte count, done an epididymotomy. I placed this man in the hospital for ten days. The temperature rose and also the leukocyte count. In examination per rectum we found the prostate almost ready to break, and the other physician examining with me wondered how we could get rid of such a prostate. I told him that oftentimes an epidilymotomy relieved these cases, and after having done this operation, it was wonderful the way in which the prostate went down. With regard to the use of the rubber catheter, we often have difficulty in introducing it. I have noticed in a recent catalogue a soft rubber catheter bicoudé, which is preferable to the silk bicoudé catheter in the hands of the old prostatic. Regarding the suprapubic and perineal operations, I have seen operators by perineal route who had patients suffering from incontinence for years. There is nothing worse for the specialist than a patient going around with a urinal. For a man who has a limited number of prostatectomies, the suprapubic is the preferable method. There are certain indications for the perineal operation but I think that in 75 per cent or 85 per cent the easiest method is the suprapubic.

Dr. W. P. Willard, San Francisco: I do not think we are justified in drawing any conclusion from one examination or inoculation in infections of the prostate. Dr. Cowden and I have been doing some of this work and we find in every case there are staphylococci present which grow very rapidly and are apt to outgrow all the other bacteria. We might get a slow growing streptococcus, which we may lose entirely if we are not most particular about it. That is also true with the colon bacilli. I do not think we are justified in giving vaccines or drawing conclusions until we have repeated our experiments several times.

Dr. A. J. Zobel, San Francisco: Much has been said about the presence of colon bacilli in the prostate but nothing has been said as to how they gain entrance there, nor has any mention been made as to the methods used. We understand how the gonococcus finds entrance and also the staphylococcus and the streptococcus, but it is through some lesion of the mucous membrane of the rectal wall, which is contiguous to the prostate, that the colon bacilli gain entrance. Ware of New York has found that the bladder is often infected through some lesion of the rectal mucous membrane and it strikes me that the general interest displayed in this line of work should induce an investigation of the rectal mucous membrane before there is an endeavor made to cure the case by autogenous vaccines. It is far better to find the point of entrance of the infection and make some attempt to heal that, than permit the keeping up of the infection after the using of the autogenous vaccines. I would suggest that in the future, where the colon bacillus is the principal bacterium found, the lesion of the rectal mucous membrane should be looked for.

Dr. M. Silverberg, San Francisco: In connection with the paper on operative treatment of the prostate, I was rather surprised to hear advocated partial prostatectomy. That is the old McGill operation which in the early treatment of prostatic surgery was found to be useless, inasmuch as it might relieve symptoms for a short while but subsequently the enlargement of the lateral lobes again produced obstruction. In the surgical treatment the gland must be removed as a whole, if it is to be removed at all. In connection with the infecting organisms in prostatitis, I wish to mention a case of proteus infection which I saw. The organism appeared in large numbers in smears made from the prostatic secretion and was subsequently cultivated. The source of the proteus I do not know as yet, but think it very likely from the rectum.

Dr. G. S. Peterkin, Seattle: One point which I would like to bring out is with regard to the after treatment of these cases. The operation is supposed to cure and most surgeons, as soon as the operation is over, leave the patients to themselves. This is wrong for people who have had their prostates removed need looking after for six months or a year. They should be taught to irrigate themselves with warm solution and you will be surprised to find how the bladder will improve under this treatment. If you will do this you will have cases in which there will not be retention of urine. Another point is with regard to using the Bottini. I do not believe it will ever be revived. If the band remains, the simplest thing would be the Young method of punching a hole through the projecting mucous membrane. It is not so apt to cut and do damage as is the Bottini knife. Another point is that the suprapubic route is the simplest one and the least dangerous. Mention has been made that a man should select his cases. A man who operates infrequently is incapable of selecting his cases, therefore the least danger lies in the less complicated suprapubic route. In closing the wound I use only four silk gut sutures, three in the upper part of the wound and one to go through the drainage tube itself. I stitch the peritoneum back so that it will not be infected. Men who operate infrequently cannot safely adopt the preineal operation and moreover the general practitioner in the country has not the proper assistants. The suprapubic operation can be done by one man. In regard to strong injections being used—it is a good rule for the general practitioner not to use them, but there are cases which cannot be relieved except by using strong solutions.

Dr. M. Krotoszyner, San Francisco: The great majority of the gentlemen who discussed the various papers of the symposium confined their remarks mostly to the treatment of prostatic hypertrophy or, to be more precise, to its operative treatment, while very little or nothing was said upon the many interesting points regarding the etiology and diagnosis of the affection. Owing to the shortness of time at my command I was forced to confine my remarks upon the diagnosis of prostatic hypertrophy merely to a few points which in my opinion, are at present in the foreground of attention, viz: the value of the cystoscope as an aid to diagnosis and the differential diagnosis between simple hypertrophy and malignancy. I would have been glad to obtain some of the experience of my confreres assembled here, especially on the latter point. I have spent a great deal of time and effort in collecting and sifting out the most important publications upon the etiology of prostatic hypertrophy which have appeared in the last five or ten years, and in doing so I have found it very hard to give a somewhat comprehensive review upon the subject in the brief space which, of necessity, could be devoted to the subject in this paper. As regards the treatment of prostatitis I only wish to add one word concerning the treatment with autogenous vaccines. I believe that the value of this

treatment is overrated and in the manner in which it is used at present will not hold what it seems to promise. There will very soon be a reaction setting in against the promiscuous use of this method of treatment. The same is true of the operative treatment of prostatitic hypertrophy which at present is paramount in the minds of surgeons and urologists to the neglect of more conservative measures which certainly in a good many cases yield excellent results.

Dr. V. G. Vecki, San Francisco: I will say in conclusion that I still stick to my condemnation of the strong solutions. While it is frequently necessary to apply strong solutions to certain parts of the urethra—as might be necessary to apply strong solutions to some lesions of the cornea—it must be done as it would be to the cornea, by treating exactly the point necessary and not flooding the whole tract with such a solution. Another point to emphasize, is that, while I claim that a prostate once infected probably never attains its sterility again, that does not mean that such a prostate remains a source of infection. It certainly could not be attempted to keep all prostatics from marrying. If we had a few of them we might try it; but there are millions, and with these millions we must deal. At the same time we have the clinical experience which teaches that the great majority of prostatics do not infect anyone.

Dr. A. S. Lobingier, Los Angeles: I have been reminded in the remarks made this afternoon, of the notable symposium, at which I was present at the British Medical Association in Manchester in 1902, in which Mr. P. J. Freyer, who had just come over from Dublin, was the first speaker. There were two representatives from America present at the time—Dr. Parker Simms and Dr. Samuel Alexander of New York. Sir William Macewen was present also and led in the discussion of the papers. Dr. Stillman's comments a few minutes ago on Macewen's methods, reminded me of his discussion that afternoon. We know that Mr. Freyer has had perhaps the largest experience of any man living, in this line of work, in connection with his service in the British army in India. He is and always has been a very ardent advocate of the suprapubic method of operating on the prostate gland. If you will remember, at the time there was not so much consideration given to that method of approach. It was not received with very much confidence by many surgeons of the world. The American surgeons had preferred the lower approach and it was mostly in favor among the French and German. I think that we must admit that to-day we are a little more discriminating in our choice of approach to the prostate, being governed by the pathological conditions which we find present. No less a man than Mr. Moynihan has followed Freyer's technic and has advocated it strongly. There are many things concerning the surgery of the prostate and the pathological condition of the bladder at the time of a prostatectomy if senile hypertrophy is present, that enter vitally into the subject and upon which the discussions have scarcely touched. Many of these bladders are either extremely anemic from overdistension and from the infection in the mucosa and submucosa, or they are hyperplastic. The musculature has become entirely changed so that if you were to do an ideal prostatectomy, you would not have ideal conditions remaining in the bladder itself. This leads me to say that the operation of prostatectomy is to a large extent a technical apology. It is practically never an ideal surgical operation. If we are to estimate from the results, we are compelled to consider it chiefly a remedial operation, relieving a condition which cannot be relieved in any other way. I have been privileged to observe something of the results of prostatectomies at the hands of the best masters in the world. If many of these cases are observed in after years, however, we find that not only is there atony of the bladder and residual urine, but there is frequently a stricture at the neck of the bladder, resulting in impaired control of the act of urination. That is another class of cases which we see not infrequently suffering from incontinence. I am entirely in accord with the idea that the prostate should be approached with critical reference to the pathological condition which we find in each individual case. In many the suprapubic route is ideal. In other cases the perineum seems to be the route of easiest approach. The point made by Dr. Stillman with reference to the technic of these operations—that many cases are not in a condition to withstand a major operation—is important. This is a major operation in the extreme sense. We frequently have a mixed infection, with pus producing bacteria. It is better in such cases to have a preliminary drainage, whether we are to do the suprapubic incision or the perineal. The point should be emphasized that these patients should be in as good condition as possible for the operation which is to come afterward, an ordeal for which not uncommonly they are all too poorly prepared.

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## THE IMPORTANCE OF MODIFICATION OF THE SENSIBILITY IN THE DIAGNOSIS OF DISEASE IN THE LIGHT OF RECENT NEUROLOGICAL RESEARCH.*

By TOM A. WILLIAMS, M. B., C. M. (Edinr.), Washington, D. C.

The paper shows:

I. The fallacies which lurk in the current faulty methods of examining the sensibility and how to avoid them, as for example (a) the stimulation of deep sensibility when the observer believes he is investigating the sense of touch; (b) the fault in technic which allows the patient's perception of attitudes to be complicated by kinesthetic impressions while being examined; (c) the methods of avoiding suggesting symptoms to impressionable patients.

II. The paths in which are grouped sensory impulses in the periphery change their arrangement in the cord. The combinations in the *cord* are (a) heat, cold and pain of all degrees and kinds, which run in the heterolateral Gower's column, both intermingled and in close proximity to one another; their decussation, however, requiring for completion 2-8 segments, generally 5 or 6; (b) Unconscious afferent impulses of attitude and tonus, both passing in the homolateral dorsal spino-cerebellar and in the hetero-lateral spino-cerebellar tract; (c) Our conscious sensations of the attitude of our limbs and trunk, however, pass in the posterior column; (d) In the posterior column run also for several segments the impulses subserving touch, pressure, and localization. These, however, eventually find their way to and ascend in the anterior columns.

Thus the gray matter is not the seat of any continuous path as was formerly thought. Many of the foregoing conclusions had been already advanced by Brown-Séquard until physiological experiments apparently contradicted them. They have, however, been re-established by more complete and less faulty clinical examinations, which we owe mainly to Head and his associates.

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* American Journal of Medical Sciences, April, 1909.

III. To these workers we owe the striking discovery that the sensory impulses before they reach the cord pass along the *peripheral nerves* in combinations very different from the foregoing. They are in three groups: (a) Those of deep sensibility, which proceed from bone, tendon, joint and connective tissue in general, as well as from muscle, where they are co-mingled with the motor nerves. They are stimulated by molecular deformation, and this stimulus when intense is painful; (b) Protopathic sensibility, carried by cutaneous nerves, consisting chiefly of the appreciation of extremes of heat and cold, of pain, and of vague touch; (c) The epicritic sense, ascertained by gentle stimulation of the skin by the very finest cotton wool, by temperatures between 22C and 47C, by the power of localization, and by Weber's compass test.

IV. Among the many clinical types of sensory disability the most important from the practitioner's point of view is the *hysterical;* for given the present inadequate knowledge on the part of the laity of normal and abnormal sensory distribution, it is always possible for the expert to detect this form of functional disability by its positive characters, which far exceed in importance any presumptions derived from the history of the disease or the so-called neuroticism of the patient, this latter being indeed often an index of organic perturbation of the nervous system. Where it is a question of hemianaesthesia due to intracranial lesion, the differential characters are the following:

(a) The hysterical anaesthesiae of the present day (1) reach the mid-line exactly, (2) are absolute, (3) as a rule affect all segments equally. (b) When palsy is present, anaesthesia of the affected limb is no help. Variability is rather in favor of organic change than of hysterical fixed idea. The summation of stimuli rarely fails to leap the barrier of an organically interrupted nerve path. Distribution in spots is more significant of tabes or other radicular affection than of hysteria. The implication of all the special senses, however, is strongly presumptive of hysteria, although this diagnosis by no means negatives the organic origin of one or several symptoms present, which are very likely to be the suggestive force at the root of the rest of the syndrome. (c) It is to the demonstration of its induction by suggestion, however, that we must refer the criterion of the hysterical nature of any anaesthesia. The examiner, knowing from the positive characters ascertained that the anaesthesia before him cannot be organic, then seeks the suggestion at the root of the perturbation. This may be done (1) by a simple anamnesis, (2) by psycho-analysis, either by the association method or during hypnosis or (3) by the effects of therapeutic suggestion.

V. Another important clinical type of sensory disability is the radicular. In this, the distribution of the anaesthesia, hyperaesthesia, or dysaesthesia is in an area corresponding with the spinal segments or radicular nerves. For its diagnosis it is essential to know the cutaneous area belonging to each of these and also the amount and nature of overlapping of contiguous radicular-nerve distribution. The epicritic elements of these overlap very widely, while the protopathic fibres do so much less. As this distinction is the opposite of that obtaining in peripheral nerves in the mass, it is easy to understand its diagnostic importance.

Sciatica is often radicular in causation; and when so, may be distinguished by the presence of the posterior primary division symptoms, the occurrence of pain upon sneezing or violent coughing, and the relative absence of the sign of Lesègue. It is important, however, to eliminate referred pain. This is done by its distribution; and by the drawing up of the opposite leg when a truly sciatic pain is investigated. The pains accompanying locomotor ataxia are of radicular origin.

VI. The dysaesthesiae occurring in syringomyelia are too well known to demand space here; but those of the Brown-Séquard type were ill understood until studied with the greater precision made possible by Head. He has definitely shown the importance of distinguishing between remote and local interruptions in nerve paths by unilateral lesions of the spinal cord and he has demonstrated how differently are grouped deep touch and cutaneous touch in cord and peripheral nerve.

VII. A clinician who has not a knowledge of the distribution of referred pains is sadly handicapped as a diagnostician. The laws upon which this depends are referred by Mackenzie to the autonomic nervous system of Langley. The most familiar example of its influence is found in the arm pains of angina pectoris. In many respects, the automatic areas correspond to the distribution of protopathic nerves, and Head believes the systems to be identical. There are reasons against this, however; but for these the reader is referred to the writer's article in "the American Journal" and to the writings of Mackenzie. It is possible that the "anguish neuroses" may be due to perturbations of the automatic nervous system; and as this condition is often mistakenly diagnosed as hysteria, clinicians might learn much by investigating corresponding cutaneous areas while the patient is in an acute paroxysm of "angoisse"; for as Lebar has shown, it is only during the acute phase of irritation that modifications of cutaneous areas may be found. The further knowledge of these points may solve many of the problems concerning the pathogenesis of certain insanities and bring further categories within our understanding as organic diseases of the nervous system, as secondary manifestations of disease in other organs, thus once more unifying psychiatry with general pathology.

## DR. CAMILLUS BUSH.

### Memorial Exercises Held by the California Academy of Medicine, June 28, 1910.

"We are such stuff
As dreams are made on, and our little life
Is rounded with a sleep."

The task before me is undertaken in the belief that it is worthy of any man to speak the truth, never so briefly, of the friend who, being summoned, leaves a wholesome memory as a legacy. Mingled sentiments of sorrow and appreciation have impelled me to speak of a fellow-worker whom I valued more and loved better than I knew, whose brief earcer is, to me and to us all, a pleasant memory.

Of the man of ideals and achievement, who has fallen under the burden of years, we are wont to say: Your work well done, your task complete; sleep under a laurel wreath, rest; resignation is ours, and the world moves on.

But on this occasion, we recall our friend "whose eyes saw only the beauty and promise of Spring; to whom was denied the splendor of Summer, the glory of Autumn, the unerowned majesty of Winter." Though his years were brief, there can be no doubt that he saw visions of what was in store for him, undisputed leadership, the highest prize accorded to human endeavor.

Mankind very properly takes small note of that sort of conquest which finds expression in mere acquisition, in material profit, or gratification of selfish ambition. Be it said that achievement, never so conspicuous, when inspired by a spirit of self-seeking finds small place in the annals of an epoch.

On the contrary, tribute of a nobler sort and generous, comes unsought to the man of infinite patience and of self-sacrifice, the man who never tires and never murmurs, the man with that Heaven-born interest in his fellow man which is the genesis and the genius of worthy activities.

Such tribute, we of "The Academy of Medicine" offer to the memory of our beloved and deeply lamented fellow, Camillus Bush.

With no wish to intrude upon the sacred privacy of the grief-stricken, we would respectfully extend our profound sympathy to the devoted parents and the loving sister along whose pathway has fallen a dark shadow which will endure to the end. May they, who knew what Heaven had given to the son and brother, find substantial solace in the assurance that his name and influence will live as an example of righteous manhood.

I speak now for the University of California, his alma mater, which received the boy, clean, earnest, purposeful; and gave to the world the man of keen insight into things, of broad culture, equipped with the essential qualities that make for high efficiency—extreme modesty, power of sustained effort and human interest. Only occasionally is such happy combination of intellectual quality and moral fibre to be found in any student body.

Again, I would speak for Johns Hopkins University. From her he acquired new inspiration and splendid training for a career, full of promise for a life work, that would have laid fresh laurels at the feet of his illustrious Second Mother. She will wait long for fuller justification of the soundness of her academic policy, or more grateful appreciation of her generous gifts.

In behalf of the faculty and student body of the Medical Department of the University of California, I shall speak of Dr. Bush's peculiar fitness for the work of a teacher. I would like you to know him as his comrades and co-workers knew him, for he was a man to have known.

There followed him to his new home traditions of a worthy student life, that gave assurance of moral and intellectual uprightness, essential attributes of perfect manhood.

He came among us unobtrusively, unannounced, asking only for a place as a helpful worker in congenial environment. He was in no sense an opportunist. Opportunity he sought, but to him opportunity was a vision, not a dream. It was the portal to activities—having little to do with the immediate, everything to do with the ultimate. Material success was a circumstance, not a triumph.

A scholar by inclination and discipline, he faced the sterner side of life seriously and always in the attitude of an enquirer. He was intellectually restless. There was no halting in his activities, no suggestion of marking time without advancing. With current progress he was not content; with mediocrity, which, Chesterton tells us, is the inevitable doom of the worshiper of success, he had no patience.

As a teacher he easily won the affection and respect of his pupils. In the laboratory, where he did his best work, his role was that of a fellow student, and he was the best student of them all. His influence was that of a stimulus, and in large measure he possessed the faculty of arousing a lively, enduring interest in things uninteresting. The more abstruse the problem, the greater his interest in its solution. His early association with men of renown gave him a clear conception of the manifold exactions that confront the modern teacher of medicine. It is to be said that the work of teaching is to become a specialty, always with the understanding that the term "specialism" as applied to pedagogy in general possesses a larger significance and is capable of a broader interpretation than attaches to the skilled practitioner or the expert technician. In a word, it will happen in the near future that he who teaches effectively will be something greater than a doctor, greater than a surgeon, greater than a man of science.

This thought seemed to pervade the atmosphere that surrounded Dr. Bush, and he entered upon a teaching career manifestly willing to pay the price, to make the sacrifice. Without doubt this thought was his best incentive to effort during long years of preparation; it was the shrine at which he knelt.

I close what I trust you will accept as a conservative estimate of the scholar of brilliant attainments, of the teacher of promise, whose untimely death leaves an unfilled place in the roster of his University, with a brief reference to his personality.

Always gentle and retiring, self-composure was a distinctive trait. Given to few words, he was reticent almost to diffidence. His keen sense of humor and thorough genuineness won for him that fine appreciation which makes for ideal companionship.

His intimates were impressed by his intellectual honesty. Better than most men, he seemed to know his own limitations and was positive rarely. Many of his utterances were couched in the form of a query which cordially invited response.

The critical faculty he possessed in large measure, and in its exercise he was uncompromising in self-exaction. His own belief, his own impressions, even his own faith, were always in the strongest light.

With his fellows he was generous, his points of view were manifold, and he shunned the common error of confounding dignified criticism with vulgar faultfinding.

And now to you, his friends, his colleagues, his fellow students, his pupils, I entrust the memory of Camillus Bush, firm in the belief that his life, brief as it was, will continue as an influence to make better the lives of those who knew him, and who will know him through the coming years.

He was clearly of those who strive

"To know their own most secret thoughts,
And others' too."

T. W. HUNTINGTON, M. D.

Camillus Bush was born at Woodland, Cal., on the fourth of February, eighteen hundred and seventy-eight, and was hence but thirty-two years of age at the time of his death. He was of English descent, tracing his ancestry through the Nelsons of Virginia and Governor Thomas Nelson of Virginia, whose father was Governor of the Kings Colony, Virginia; also through Captain James Bush of the French and Indian War, and of the Continental army under Washington. His immediate grandfather, Nelson, was a California pioneer, coming to this state in eighteen hundred and forty-nine. His paternal grandfather was Dr. J. P. Bush, who came to this state in eighteen hundred and forty-six, and was well known in this city in the seventies. He was for many years and up to the time of his death in eighteen hundred and eighty, in the Pacific Mail service, running between this port and the Isthmus of Panama. Dr. Benjamin R. Swan of this society knew him well and describes him as a most interesting and able man. There were other medical men in the family and a professional life seemed to come natural to Camillus Bush; his early tendencies and ideas were in that direction.

Dr. Bush received his early education in the public schools of this state. He entered the University of California as an accredited student from the Oakland High School, graduating in eighteen hundred and ninety-eight from the College of Natural Sciences with the degree of Bachelor of Science. His college course, while shaped to prepare him for his subsequent medical training, was a decidedly broad one. He seemed to have a fondness for mathematics, taking far more than the required amount for his work. This tendency apparently led him at some time into astronomy, for I well recollect my surprise recently at the intelligent part he took in a rather technical astronomical discussion. The record of his studies at the University shows that he attained high marks in all of his subjects.

Dr. Bush received his medical education at the Johns Hopkins Medical School, from which he graduated in nineteen hundred and two, standing among the first men in his class. Subsequent to receiving his degree, he served for a year as surgical interne in the Johns Hopkins Hospital and for a second year as assistant resident surgeon in the same institution. During this second year he had ample opportunity to do operative work. In addition he acted during this time as the regular assistant of Dr. Harvey Cushing in his operative work, and it was no doubt this association that stimulated his interest in surgery of the nervous system. I think it was in this branch of surgery that Dr. Bush was particularly interested and in which he would have done his best work.

Dr. Bush returned to San Francisco in nineteen hundred and four and immediately took up the practice of surgery, to which he confined himself exclusively. Of the success he was making in this field and of the future that awaited him it is unnecessary for me to speak; it is well known to all of you.

Soon after his return he joined the teaching force of the medical department of the University of California and continued to serve it faithfully to the time of his death.

Dr. Bush had hardly commenced to contribute to medical literature. I find record of only two papers: one on primary sarcoma of the spleen and one on brain surgery, read before this society some months ago. Both of these demonstrate that he possessed much more than average ability as a writer, and undoubtedly, had he lived, we would have had, in later years, many valuable contributions from his pen.

HERBERT W. ALLEN, M. D.

## COOPER COLLEGE SCIENCE CLUB.

### Report of a Case of Sick-Headache.

By F. W. BIRTCH, M. D., San Francisco.

This case is only an ordinary, typical, but persistent case of sick-headache. All have undoubtedly seen such cases. Still, for twelve years this patient was incapaciated for her work, leading a life of semi-invalidism. During this time, she passed, unrelieved, through the hands of some of our best medical men. This must have been due to the fact that these men considered sick-headache too ordinary, or too uninteresting for them to consider. For these reasons, together with the fact that the headache could be produced artificially, we thought the case might be interesting to some.

Miss X., a nurse, native of U. S., single, age 25. Father alive and well except for the same type of headache as patient. Mother alive and well. Two sisters dead; one at birth, the other at the age of three years with heart trouble. One brother and one sister alive and well. Grandfather on father's side suffered from headache and stomach trouble, the character of which the patient is ignorant.

Patient had ordinary diseases of childhood, also diphtheria, malaria and empyema. At the age of twelve, she began having sick-headache with vomiting. The evening previous to the attack, she was seized with canine hunger, and would wake the following morning with nausea and vomiting which was immediately followed by severe pains in the head. The patient describes the pain as a huge bolt run through the temples and then screwed up. The attacks came on about four in the morning.

At the age of seventeen, the headaches became more frequent, occurring every Thursday at 4 a. m. Finally, her school work was abandoned and she went to the country for a year. While there, the attacks became less frequent, but on her return to school work, she straightway relapsed into her old condition. When her school life was over, she made a second trip to the country, this time remaining a year and a half. She then entered the Hospital Training School, but soon there was a repetition of the old condition. During the first year, she lost a day about every second week, and many days she worked when she was really unfit for duty. The condition became so bad that she was put to bed in the hospital for four weeks.

The physical examination proved negative except for the stomach. A tender point was found one inch to the left of the median line, just below the border of the ribs; and another was tender to pressure in the tenth space posterially just to the left of the median line. This point was also hyperaesthetic to a pin prick.

Laboratory notes were as follows: After Ewald Meal: 70 cc. of well digested food was obtained. Free HCL—33 cc. Total acid 60. No mucus, no occult blood. After Riegel's Meal: 60 cc. obtained, HCL 41. Total 54. No blood, no mucus. Stools showed neg. occult blood at all times.

Notwithstanding the negative laboratory finding, suggestion was made that the patient might still have a gastric ulcer which was not bleeding.

She was put on Lenhardt diet, but with little satisfaction. After a month's vacation in the country, she resumed her work at the hospital, but the headaches were unchanged.

One morning, on a fasting stomach, the stomach contents were aspirated and found to contain: 100 cc. of clear fluid. 27 free HCl. Total 39. Bile present, no occult blood.

Then to see whether or not increased acid had anything to do with the causation of the headaches, we put 6 oz. of HCL into the stomach, the patient being ignorant of the nature of the fluid; the characteristic headache was produced. The stomach was

washed thoroughly with solution of sodium bicarbonate and the condition was relieved.

In conclusion I would emphasize the following:

I. That this headache could be artificially produced.

II. That it has been for one year and a half absolutely controlled by washing with sodium bicarbonate.

III. That taking alkaline by mouth does not abort the attack.

IV. Taking an alkaline by mouth aborts the attack in the case of the father.

### Report of a Case of Intra Thoracic Tumor.

By J. B. FRANKENHEIMER, M. D., San Francisco.

The interest in the patient about to be shown centers in the pressure on the superior vena cava with the consequent collateral circulation.

The patient is a male, aged 59 years, a native of the United States and a cigarmaker by occupation. His family history is negative, and there is nothing noteworthy in the previous history except that he denies lues. He uses alcohol moderately, tobacco to excess. For the last 10 years, especially after excitement or exertion, he has had slight pains in his precordium. There has been no palpitation of the heart, shortness of breath or difficulty in swallowing.

Until four weeks ago patient was in very good health. At this time he noticed a swelling on both sides of the neck, which extended gradually and involved the entire face. After two days it partially subsided and then returned. About ten days after the onset of his symptoms he noticed swelling of the upper and lower extremities and that his color was very blue. He has been troubled with cramps in the hands and feet severe enough to cause contraction of the fingers and toes. His voice has become hoarse, but he neither coughs nor expectorates.

On entering the hospital the patient was well developed and nourished. The color of his face and head was dark blue—that of his hands and arms less so, and he was slightly dyspnetic. The face and head were very edematous. The eyes were negative. The neck was very much enlarged, especially in the submaxillary regions. The external jugulars were the size of a little finger. The chest and upper extremities, especially the hands and forearms, are very edematous. The former is well formed and both sides move equally. At the insertion of the diaphragm, almost entirely encircling the thorax are many distended superficial veins, the largest being about the size of a small quill, forming a bluish black band. Scattered over the back are many dilated veins. The area cardiac dullness upper third rib, rt. sternal border, sixth interspace in mammary line. Heart sounds at the apex are of equal length, no murmurs are heard, the second pulmonic is accentuated. Over the upper sternum there is an area of dullness 9x7 cm. extending as low as the third rib. There is a diastolic shock indistinctly felt over this area; no murmurs are heard. A slight tracheal tug is present. Posteriorly the dorsal spinous processes are dull on percussion from the first to the fifth. The right pulse is much larger than the left. At the base of both lungs there is dullness with absence of vocal fremitus. The liver is enlarged and palpable, as is also the spleen. Abdomen is otherwise negative. The inguinal glands are few; the epitrochlears not palpable. There is moderate edema of feet and legs. The patellar and plantar reflexes are present and lively. Examination of the urine is negative. The Wasserman reaction is positive. X-ray examination shows a large sharply defined rounded or oval tumor occupying the upper mediastinum.

The main purpose of demonstrating this case is to show the remarkable superficial evidence of the established collateral circulation. On account of the pressure on the superior vena cava and its branch the innominate vein with the consequent stasis in its branch, the internal mammary, the direction of the blood stream is reversed, and we find the venous blood from the thoracic region reaching the heart by way of the internal mammary veins to the superior epigastric veins to the epigastric and circumpex iliac branches of the iliac veins and so to the inferior vena cava.

As to the pathological diagnosis, we think there can hardly be a doubt but that we have to deal with an aortic aneurysm. The points in favor of this conclusion are the age of the patient, the lack of cachexia, the suddenness of onset with a history of precordial or sternal pain on exertion, indicating involvement of the circulatory organs, particularly the aorta, as there is no evidence of disease of the heart which could cause these symptoms; the positive Wasserman reaction and the sharply defined rounded outline of the mass as shown by the X-ray.

Furthermore the patient has shown great improvement under bed rest and specific treatment; not enough if the tumor were a gumma yet more than if it were a neoplasm. Another point is the perceptible increase in the area of dullness after the patient has moved about.

As for the diagnosis, it would probably be safer to use the broader diagnosis of mediastinal tumor. However, I think it would be justifiable in this case to make a more specific diagnosis of aneurysm of the arch of the aorta. I see no indications of carcinoma. The age of the patient, it is true, is the carcinomatous age, but there is lacking the cachexia, the loss of weight, the enlarged glands, the pain and the cough, which a carcinoma in this situation would cause. Furthermore, the sudden onset with previous symptoms pointing to disease of the circulatory organs, the remarkable improvement with treatment and the fluctuations in area of dullness caused by exercise are all evidence more in favor of aneurysm than carcinoma.

## CALIFORNIA ACADEMY OF MEDICINE.

### Demonstration of Case of Fracture Treated by Operation.

By TRACY RUSSELL.

I shall demonstrate this patient in order to show the use of screws and plates. The man is 38 years old. Four months ago he fell from a ladder, striking on the left foot, leaving a very bad deformity, according to the X-rays. Two days after the injury I operated on him. The lower articular surface of the tibia was crushed into small fragments. These were removed. The lower end of the shaft was divided into four pieces and impacted between them was the upper portion of the astragalus. I had to cut the tendon Achilles to disengage the astragalus, and by tension and manipulation was able to get the fragments into position. The fracture lines ran up the shaft about 4½ inches. Two of the upper fragments were brought together with a piece of silver wire. The inner malleolus with a portion of the shaft had a tendency to displace inward and could not be retained in position with any kind of material except a plate and screws. I took a piece of this material about four inches long and with four screws, two on the shaft and two on the malleolus, retained the fragment in position perfectly. This was four and one-half months ago. The man was in bed two months, then crutches two weeks, and after that was allowed to bear a little weight on the foot. A brace was fitted about a month ago. I did not see him again until yesterday. In the meanwhile he has been walking with this apparatus on his leg. Yesterday I found the foot rotated slightly outward, so that he was walking on the long plantar ligament. This has produced a little eversion of the foot. I am trying

to get him to walk with his feet perfectly straight and will put a little raise in the shoe or get a Goldwaithe plate made for him. The plate and screws are still on the bone. He is walking now, the little swelling that he still has almost disappears in the morning.

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### The Immobilization of Fractures.

By S. J. HUNKIN, M. D.

It seems to me that there are three things to be considered in the handling of fractures: (1) That the alignment must be maintained; (2) that the fragments must be in contact and end to end, and (3) that the immobilization must be maintained at all times. It has fallen to my lot many times during the last year, and twice during the past week, to see fractures in which surgical operative procedures had been adopted with good placement of wire and staples, and yet the surgeon, notwithstanding his good operative technic, had failed to obtain immobilization and consequently, union. In one instance the fracture was of the upper third of the femur; in this instance after the placement of the staples, the man was put into bed without any immobilization whatever and lay there several weeks. Later on some bowing was noticed and traction was applied. The fracture occurred about nine months ago and the man is still in bed.

The other case is that of a man who was hurt in a runaway. There was a fracture of the femur at the junction of the middle and upper thirds. It was wired and healed by first intention. A plaster of Paris splint had been applied in such a manner that the upper edge of it extended only 12 cm. above the line of fracture while about nine or ten pounds of the splint extended below the fracture and yet the surgeon wondered why he had not secured union.

Contact between the fragments must be obtained and maintained with some pressure. There is an axiom in surgery regarding immobilization of fractures the essence of which is that, not only the fragments shall be held steadily in contact but also the joint above and the joint below the fracture shall be immobilized. That such an axiom is of the utmost importance there can be no doubt, and yet in the large majority of the fractures which I see this axiom is entirely disregarded. Indeed it is unusual to see a fracture held with the joints above and below absolutely fixed. I am familiar with the work of Champonierre who treats fractures without any splint. Concerning his method I have little to say except that the results which he obtains would not be satisfactory to me and would, I believe, in this country lead to malpractice suits. With regard to the part played by splints applied directly to the bone. It does not make any particular difference what the bone is splinted with. I prefer staples for fractures occurring in the vicinity of joints and plates for fractures occurring in the shafts of bones.

Up to the present time I think I have at least twenty-five plates in; of these two have little sinuses which will probably require the removal of the plate later on. I am in the habit of using a plate which is much stronger than the ones shown here and I like to have these plates made for each individual case. I am using much longer plates than I did formerly which allows the screw-holes to be placed farther apart, which is an advantage, and the screws are countersunk. The bone-plate has little purpose, though, except to keep the ends of the fragment in contact; it does not maintain alignment after the first few days, because at the end of this time the screws are loosened to a greater or less extent; but it does maintain the fragments end to end even if the alignment is lost; obviously the maintaining of fragments end to end accomplishes by far too little because such a condition permits of the fragments being adducted, abducted, flexed, extended and rotated. To obviate this I am in the habit of applying two plates in the fractures of long bones. The plates are applied longitudinally and ninety degrees apart, a procedure which is, mechanically, most efficient because, when so applied, inter-fragmentary motion is reduced to a minimum.

It is also evident that immobilization cannot be best maintained by traction but that traction may be of value as an aid in maintaining immobilization. For the external splint some substance should be used from which a mold of the leg could be made. Dr. Sherman made such a splint from iron-wire which was more efficient than any other I know of, because it was so constructed as to fit the changing contours of the body. It is very difficult to properly pad and accurately apply a wooden splint to fractures of the femur. I am particularly well satisfied with plaster of paris. A splint for a fracture of the femur should extend from the toes to the ribs, the foot being included to prevent rotation of the fragments, and when so applied the joint above and the joint below the fracture are held. Such a splint, together with the bone-plates, allows the patient to be moved about and to be turned over without any danger of disturbing the fragments.

#### Discussion.

Dr. Stanley Stillman, San Francisco: So far as Dr. Huntington's paper is concerned, I must say that I concur with every statement which he has made. The question whether all recent fractures should be submitted to operation or open treatment seems to me, particularly of late years, to have become analogous to the question of the treatment of an inflamed appendix. The whole medical world is now practically agreed in regard to appendix and gall-bladder treatment. So far as fractures are concerned, Dr. Huntington has stated all the essential points. I do not mean to say that every appendix should be operated upon nor every case of fracture, but where there is some obstacle to reduction or difficulty of retention particularly in a case involving a joint, I regard operation as imperative.

My own attitude in these cases is shown when I say that I state to a patient that I decline to take a fracture case unless I am given the privilege of operating if I see fit to do so. My own experience with operative treatment of recent fractures is less than that of Drs. Huntington and Hunkin, but my experience of later cases has been very considerable. There is a great difference between the ease with which you can restore the anatomical relations in recent fractures as compared with the difficulty you encounter in figuring out the articular or fractured surfaces of fragments which have been out of place for some weeks. When the fragment is partially buried in callus it is a very difficult thing so to remove the callus as to permit of accurate replacement. The time to operate on these cases is shortly after the accident happens; the fragments can be fitted back into place again and the results in fractures involving the joints are excellent provided you get anatomical replacement of parts. If this replacement is not accomplished, the result will be an impaired joint no matter what you do except perhaps in the case of young children where sometimes remarkable function is obtained in spite of

great deformity. I agree with Dr. Huntington again in that more is to be expeeted of us in the future in the results of the treatment of fractures, and that an X-ray picture of a case after reduetion whether operated or not, is of the greatest importanee. Dr. Russell's case is a striking example of what immediate operation of fraetures will do. If he had treated the case six or eight weeks in the usual way before operating, he would not have gotten this result, nor would any other surgeon have succeeded in getting the result which he has shown here.

So far as Dr. Hunkin's paper is concerned, I do not think that I have anything further to add. I am surprised at his statement that he has found it the rule that physieians in applying splints, leave out the neighboring joints in fractures of the limbs. I know that in my own teaching, I have always taught that in a fraeture of the arm, splints should take in both elbow and shoulder; in a fraeture of the femur splints should take in the knee and the pelvis, etc. Dr. Hunkin's statement that no interosseous splint will maintain a fracture in apposition for any length of time without external support, is true and applies to bone as well as musele, tendon or any other strueture. There is no use in attempting to hold two tissues together when there is tension enough to cause the suture material to cut and any interosseous splint should be supplemented by suitable external support.

The great question before us to-night is whether this Academy wishes to proclaim its assent to the proposition that practieally all cases of fraeture ought to be treated by operation. For my part I think they should, not because it is not possible in most cases to get good results in any ease without, but because better results can be gotten with operation. The additional damage done by the surgeon is very little and the risk of infection not great enough with proper teehnic, to balanee the advantage gained by the accurate replaeement and retention of the fragments. When, however, the X-ray pictures show that satisfactory reduction has been aeeomplished, then of eourse sueh interference is not ealled for.

Dr. Rixford: I am perfectly in aeeord with the views expressed by the last speaker as to the general notions of the operative treatment of fractures. There can be no doubt that if a fracture is sooner or later to be redueed by opeu incision it is vastly better to operate while the fraeture is still recent rather than to operate only after a poor result has been obtained by non-operative methods. The reasons for this are obvious. Shortening or longitudinal displacement is readily overeome; the bone is better nourished not having suffered the atrophy of disuse; the general physical eondition of the patient is better; his period of confinement is less and nonunion is mueh less likely to occur than where operation is performed as a secondary proeedure. Reduetion and retention in splints is still a legitimate treatment, however, and I believe preferable for the majority of fracture cases. It therefore would seem to be important in our first study of fraetures to determine whether the given case may be better treated by operative or non-operative methods. In certain groups of cases the decision is not diffieult; e. g., the great majority of the fraetures of the short bones may be satisfaetorily managed without operation; simple transverse fraeture of the shafts of the long bones also; but spiral fractures of the shafts of long bones (and this is a much larger class than commonly stated, eomprising as it does, most of the oblique fraetures) may be best treated by open incision. Spiral fractures are caused by twists and the direction of the spiral is always the same as that of the twist—a right hand twist will produee a right handed spiral fraeture (the line of fracture eorresponding to the thread of a right handed serew). Sinee right handed twists are more commonly reeeived by the left leg, spiral fractures of the left leg are most commonly right handed spirals and vice versa, left handed spiral fractures are most eommon in the right leg. In these spiral fractures the ends of the fragments are irregular, they have sharp points which cut into and hook into soft parts; they are difficult of adjustment beeause adjustment to be at all satisfactory must be absolutely perfect; and that is impossible except through an open incision. They present no square shoulders whieh after reduction will take up the longitudinal pull of the muscles. Comminution is often present. In these and similar fraetures if adjustment be made by early operation the difficulties encountered will be a minimum and the pieees will fit perfectly. In late operation rarefying osteitis and deposit of new bone so change the shape of the fragments as to make adjustment uncertain and imperfeet. Shortening may be obstinate or irremediable and union in mal-position may neeessitate mortising of the bone with permanent shortening.

In my own work I am guided as to the indieations for operation very mueh by X-ray findings—I am almost ready to say that I refuse to take the responsibility of a fraeture case unless I can have one or more radiographs taken. The radiograph taken before treatment is instituted is a record which is of value not only in anatomical diagnosis and in estimating the indications for operation and in prognosis but is valuable also for future reference and in forestalling malpractiee suits. A radiograph taken after adjustment of the fragments—preferably taken through the splints or plaster dressing—is a splendid eheek on the efficiency of the procedures adopted.

In my personal work I have had a very considerable experienee in the operative treatment of fractures. It has been confined, however, almost entirely to the use of wire and the staples of Arbuthnot Lane whieh I first saw Dr. Huntington use. With the Parkhill elamp and the Sieh and other plates I have had little or no experience. I believe, however, from my observation that the simpler the deviee the better and that the great majority of fractures requiring operation can be better held by means of simple wires, staples or nails than by these more eomplicated appliances. The real essential, however, is that the operator shall have a goodly measure of mechanieal ingenuity—if he is lacking in that partieular he had best not bother with the operative treatment of fractures. As between staples and wire, I believe the wire to be the more generally useful.

This radiograph (plate exhibited) shows a complicated spiral fraeture of the lower end of the tibia beautifully adjusted and held in place by one of the Lane Staples. But the radiograph took this other plate at right angles which shows that the staple had swung around on its two ends permitting an antero-posterior displacement great enough to spoil the result. I show the picture as an example of one souree of failure of the staple. I may say that a wire judieiously placed, subsequently held the fragments in perfect position.

I often use both staple and wire—wire to hold the fragments in lateral apposition and to prevent rotation and staple to prevent longitudinal displaeement. Sometimes it is suffieient to simply put the wire around the bone and in this I believe wire is superior to a metal ferrule but if the bone is strong enough, I believe it is better to pass the wire through drill holes whereby if the holes be properly plaeed advantage is gained in resisting the forees whieh tend toward displacement.

It was held not very long ago that a limb onee shortened eould not be lengthened but it is found that not infrequently a shortening of one, two or even more inehes which has existed for a considerable number of weeks may be overeome if you have a good husky man or two or suitable meehanieal applianees whieh will pull out the limb after release of the fractured ends of bone. I have sueeeeded in this way of overcoming a shortening of the leg of two inehes after six weeks, in another, a shortening of one and one-half inches after four months,

and a shortening of a thigh of 2½ inches after four weeks.

As a rule I prefer to operate when the fracture is several days' old—a week or so—and for the following reasons: there is less swelling, less hemorrhage in the operation, less tissue present of doubtful vitality; healing has already begun, granulation cells or round celled infiltration have begun to form in the part by which the danger of infection is greatly lessened; or as an old time practitioner put it "The cells of healing are in the part"; there is time for the healing of abrasions to have occurred; delirium tremens is apt to have been overcome and there is nothing lost either in mechanical conditions looking to the adjustment of the fragments nor in the time of recovery of the patient.

Dr. Rixford exhibited a number of radiographs of fractures of the leg, thigh and arm adjusted through the open incision and held by wires and staples. As an example of the kind of case which is every now and then put up to the surgeon he showed a plate of a humerus fractured in two places 2½ inches apart; the uppermost fragment shattered, and the lowest split into the elbow joint. The uppermost fragment had penetrated the skin and had cut off the ulnar nerve. The condition present was that of non-union of the lower of the two principal fractures, anchylosis of the elbow and complete musele-spiral paralysis. Operation showed the nerve ends separated about three inches—stretching gained about three-fourths of an inch. Since the restoration of nerve function is paramount and nerves recover much more completely when the freshened ends are in complete contact, it seems best to shorten the humerus 2½ inches or enough to permit of approximation of the trimmed nerve ends without tension. At date of publication (after four weeks) excellent union of the bone has occurred.

Dr. Harry M Sherman: I think that we ought to emphasize the point made by Dr. Hunkin about the intra bone splint being merely a coaptation suture. What he has said, too, about the inadequacy of splints we all see, especially in cases from the country, plaster of paris being rarely used for these purposes, and even then often inadequately. I believe that all the different methods of holding the bone by the inside splint, the coaptation suture which has been spoken of, should all be at hand when we operate. I always like to have an X-ray picture taken before the operation but I think that each one will agree that when we open a limb we find that the X-ray picture has only told part of the truth, even although taken in two planes, we often will find the uncovered bone shows conditions not represented in the radiograms as Dr. Stillman has found, that in one case we can use one thing and in the other case another, and we have to be familiar with all the methods and to have them at hand. The retention of these things in the leg afterwards, I think, depends entirely upon sepsis and asepsis. I think that something that I learned from Dr. Hunkin is applicable, that is with regard to too much handling of these things which go into the wound to remain. First they are handled by the operation nurses in laying them out on the instrument table and again by the nurse in handing them to you, by your own assistant and by yourself. The things which go into the limbs should never be touched by anybody but the operator himself, he should take them up and put them into the limb, that is what Dr. Hunkin began doing when he began to put in silk sutures in paralytic limbs. There is altogether too much general handling of instruments in our operating rooms. If we can succeed in getting through an operation practically with asepsis (no operation is absolutely so), only such infections going in as can be taken care of by the blood and tissues, almost any substance and any amount will stay. The transitory nature of this work is something we will all agree to. We have had to take out these staples in some instances and they always come out easily if one pulls them in the direction in which the points lie. I have always used screws, wire and staples except in one instance. In this man (exhibiting radiogram) whose femur was broken just above the condyles in a region where cancellous tissue made it impossible to use a screw or staple efficiently, I put on a wide band reaching from one fragment to the other like a ferrule. The fracture was already an old one when this was done, some callus had been thrown out and this had to be included in the band of ferrule. The band has, however, remained perfectly well in place, holding the alignment accurately; nor does it in any way interfere with function even although it is somewhat near the joint, and much of the callus has disappeared.

Dr. Huntington: I am much pleased at the interest elicited by this subject during the past three years. A comparatively short time has elapsed since frequent resort to the open method in fracture treatment has been seriously entertained. During a recent eastern trip, I was surprised to find how few hospital surgeons manifested a willingness to undertake this line of work. Urgent cases were operated upon without protest, but the idea of approximate reposition seemed to meet the ideals of most surgeons. The question has been asked many times by physicians remote from hospital facilities whether or not they should operate in obdurate cases. The answer is certainly NO.

There is always the alternative of sending such patients to a well equipped hospital, or if that be impossible, the surgeon should protect himself by making a plain statement to the effect that without an operation, a satisfactory result cannot be assured. With a written record of that, the surgeon is safe from subsequent attack. With regard to open fractures, my feeling is that there should be sufficient delay to warrant the presumption that the danger of sepsis is past. We must consider open fractures always as primarily infected and to introduce a new element in the shape of a foreign body under these circumstances is of questionable propriety.

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## MEDICAL ETHICS IN SAN FRANCISCO.

By W. S. THORNE, M. D., San Francisco.

The following article is a reprint, the original appearing seventeen years ago.

In view of the fact that the subject is one to which attention is constantly drawn by real or fancied transgression of ethical conduct, I venture to hope that the suggestions may not be inappropriate to the present day:

"In California, isolated from the older and more stable societies, the medical profession is characterized by an absence of that *l'esprit de corps* that we observe elsewhere. The explanation of the fact is to be found in the heterogeneous elements comprising the body of the medical profession. The transplanting of men, representing different nationalities, ideals and social conditions, and the consequences that follow the self-restraint and respect imposed upon the individual by the conventionalities of more ancient and crystallized societies, conduce to a diversity of thought and action which we are accustomed to witness here. Provincialism finds expression in self-laudation and an exaggerated idea of the especial superiority of country, educational advantage, and college degree. Nothing so pre-

eminently distinguishes the *small* man—the man whose knowledge of the great world is limited to the confines of his college *campus,* and the geographical boundaries of his native province, as his fancied superiority, and the assumption of great wisdom. Newly released from the pressure and restraint of strict social order, and graded rank, the stranger is prone to regard with ill-suppressed disdain an approach to professional equality with his brethren here. *His* country, *his* attainments, *his* traditions, have deeply impressed *him,* and it is only later that he comes to learn, that schools do not make doctors, and that doctors do not make men—that behind the doctor is the *man* and his *character,* which together comprise all that *he is,* and all that he is *worth* to the community in which he lives. The doctor, whatever his attainments, who is dishonorable, and unethical, who maligns his neighbor, who detracts from honest and conscientious effort on the part of an humble confrere, is a contemptible man. The man of many degrees, the man of encyclopediac knowledge may be, and often is, a weak and incompetent practitioner. Colleges may confer degrees, but they do not confer courage, honor and common sense. Men equally educated differ in point of intelligent application of their acquirements. Men unequally educated will yet more widely differ in this regard, but honest and conscientious effort, however ill-directed, is entitled to respectful consideration. Fortuitous circumstances of birth, educational advantages and natural adaptation, place us individually on different planes, but this difference in potential capacity, if supplemented by honest endeavors, should not detract from the respect due to such attributes. The too frequent tendency in San Francisco to utterly ignore the rules of ethical conduct and for one medical neighbor to openly charge another with ignorance or incompetence, is ignoble. The man who indulges in this sort of egotism, is handling a boomerang, quite as likely to injure the wielder as to destroy the object of its aim. In any event, it lessens confidence and respect of the public for the medical profession. The medical function is nothing, if not dignified and respectful. Pope, cardinal, bishop and priest may serve at the same altar. All men can not stand upon the same level, but erudition and superior station should not dull our sense of justice and fair dealing toward the less fortunate. He who imagines himself pregnant with great wisdom should reach the goal of his ambition without injury to the reputation of his neighbor, and without slurring and injurious comment. Let us be *men,* ready at all times to answer for our words and our actions, considerate of the faults and the mistakes of others. No man can rise or has ever risen to an exalted height in medicine who has not carried with him the love and respect of his contemporaries."

## SOCIETY REPORTS

### RIVERSIDE COUNTY.

The last meeting of the Riverside County Medical Society for the year prior to the summer vacation was held Monday evening, June 13th, at the Hotel Glenwood. The members of the Society entertained their wives, Senator Miguel Estudillo of Riverside, and Honorable George Freeman of Corona, candidate for the Assembly before the Republican Primaries. Senator Estudillo and Mr. Freeman spoke on the subject of "Medical Legislation." Dr. C. Van Zwaluenburg read a paper on "A Model Practice Act."

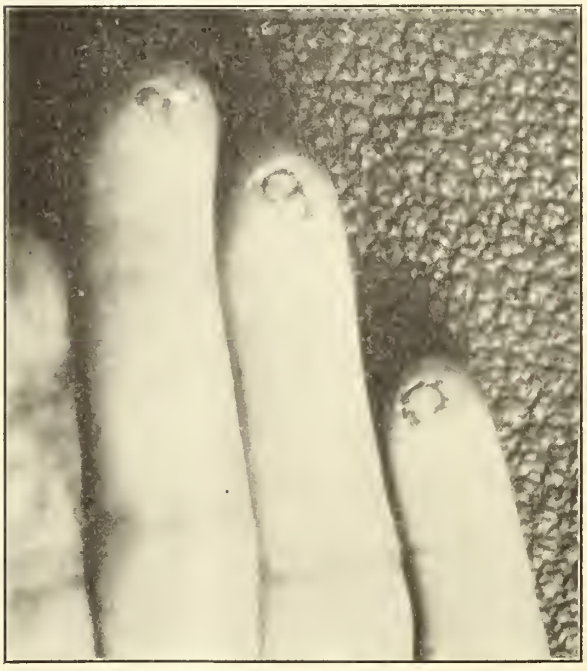
Dr. R. E. Moss of Riverside was elected to membership in the Society.

### SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Regular meeting, March 8, 1910.

Dr. H. A. L. Ryfkogel, presenting Case of Tubercular Dactylitis.

Patient, white married woman, 35 years of age, gives no personal or family history of tuberculosis or syphilis. There are no points in the family history that have any bearing on her present condition. Last April she noticed a curious tingling sensation in the left forefinger, which in a few weeks became swollen, and a little later on pus issued from beneath the matrix of the nail. Two or three weeks after this her thumb began to swell and within a couple of months the condition became as you see it now. Examinations of the patient's general physical condition show no disease of any important organ. The radial artery of the diseased side is absent or obliterated. Pulsation of the right radial is normal. Circulation of both hands seems otherwise normal. Examination shows, on the palmar surfaces of the distal phalanges of the third, fourth and fifth fingers, warty growths (see illustration) which rest in sharply punched out excavations. The walls of these snugly grasp the warts. A small amount of pus exudes from between the warts and the walls of the cavities. The second (index finger) is swollen in its distal third and thin pus can be squeezed from beneath the nail matrix. When the



Tubercular Dactylitis.

second joint of the finger is flexed, rough crepitus is felt. The thumb is swollen to twice its normal circumference, the greatest diameter of the swelling being opposite the inter-phalangeal joint. In it crepitus can be felt. This crepitus did not develop until lately, however. There was no considerable redness or pain. The diagnosis here lies between a trophic disturbance such as Raynaud's disease, syphilitic dactylitis and papillomata, and tubercular dactylitis and warts. The tuberculin test showed a slight reaction. A Wasserman test was negative. The swelling of the thumb and finger was opened and some material curetted away and examined microscopically. It resembles syphilitic rather than tubercular granuloma. Finally, guinea pigs were inoculated with some of the material and died of general tuberculosis. Patient has been put on proper hygienic and medicinal treatment, and the usual ascending doses of tuberculin are being administered.

## BOOK REVIEWS

**Practical Suggestions in Borderland Surgery.** By G. M. Blech, M. D. Professional Publishing Co., Philadelphia, 1910.

This book of 200 very small pages is presented, according to the publisher's note as a "veritable multum in parvo" a protest against the "somewhat unhealthy stimulation which has resulted from the marvelous surgical successes of recent years." The reviewer fails to understand how the question "when to operate and when not to operate" is solved by very lengthy and laudatory descriptions of Freund's operation for emphysema, Routte's sapheno-peritoneal anastomosis for ascites, the X-ray treatment of prostatic hypertrophy and the injection of alien blood into that gland as a therapeutic measure. It is interesting to read that "the prevalence of pneumonia in the early spring and late fall should cause us to postpone facultative operations to a time when climatic conditions are more favorable." Equally interesting is the statement that the author found it necessary to go to Germany to investigate the essentially American drop method of ether anesthesit and that his experience with cholelithiasis "comprises eleven cases, nine of whom have been operated on, the other two being still under observation (over five years)." Hence the following contra-indications: acute attacks, icterus, occlusion of choledochus, obesity, nephritis, etc.! In typhoid perforation the operative chances are termed problematic and internal medication is preferred. Hysterectomy for fibroid is said to have a considerable mortality.

Thus one may scan pages of interminable incongruities woven together without method or grammar.

D. T.

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**The Elements of the Science of Nutrition.** By Graham Lusk, Ph. D. S. D. H. R. S. (Edin.). Publishers, W. B. Saunders Company, Phila.

A second edition of Professor Lusk's work within three years is in itself testimony to the value of his contribution to the most important of all physiological subjects. It is in fact a book belonging to a type too little seen in contemporary scientific literature. The average modern treatise contents itself with stating results, and the larger number of the graduates of our schools have but the haziest notion how these results have been arrived at. Here we have a book whose stated aim is: "To review the scientific substratum upon which rests the knowledge of nutrition both in health and in disease. Throughout no statement has been made without endeavoring to give the proof that it is true." This ideal is strictly adhered to and we have a volume tracing with the utmost precision and great lucidity of language the long series of experiments and deductions that underlie our present teaching in the field of metabolism. Apart from the knowledge to be acquired, I can conceive of no more valuable mental training for student or physician than is afforded by the perusal and mastery of these pages. Commencing with the fundamental experiments of Lavoissier, the reader is led through the maze of experimentation resulting in the latest achievements concerning the complex problems of proteid metabolism.

Under the headings of Metabolism in Starvation, The Regulation of Temperature, The Influence of Proteid Food, The Specific Dynamic Action of the Foodstuffs, The Influence of the Ingestion of Fat, and Carbohydrate, The Influence of Mechanical Work on Metabolism, A Normal Diet, The Food Requirement During the Period of Growth, Metabolism in Anemia, Gout, Fever, Diabetes, Phosphorus Poisoning, Theories of Metabolism, we find practically all of the leading questions concerning normal and pathologic nutrition considered. The very fairness with which all facts and opinions are presented seems to preclude a full presentation of the author's own opinions, and we miss such able summaries of the drift of opinion as Professor Lusk might well give. This much will be apparent to the careful reader, namely, that however much we know, and though, as the author states, many of the laws of metabolism "are as fixed and definite as are any laws of physics and chemistry," still there is an enormous work to be completed before many of the most pressing questions concerning health and disease can receive a satisfactory solution. Furthermore, it will be seen how slim is the foundation on which rest many of our popular opinions; thus we learn that suboxidation, which has figured so largely in medical literature of the quasi-scientific type, is a myth. While primarily concerned with laboratory experiments and the deduction of general laws, the book is none the less of interest to the physician in the daily practice of his profession, and to such the chapters on Metabolism in Diabetes, Gout, and Fever will have great value. Finally, in the way of criticism we note that the author in his preface states that having collected for the American Text-Book of Physiology, the material for the chapter on the life history of the inorganic constituents of the body, he has allotted but little space to it in this volume. This we feel to be a mistake; to write a work on nutrition without reference to the absolutely essential inorganic elements leaves us with a sense of incompleteness. Lastly, then appears on page 31 the following passage: "Phenomena of life are phenomena of motion due to the liberation of energy in the breaking down of molecules. The motions are principally manifested as heat, mechanical energy and electric currents." Here we find Professor Lusk seemingly giving authority to a widely diffused fallacy, namely, that katabolic processes are a source of energy. Of course the exact opposite is the case, the dissociation of large molecules can only be effected by an expenditure of energy; in other words, the breaking up of a large molecule into many small ones can only be accomplished by work done on it. The liberation of energy that commonly, but not necessarily, accompanies katabolic processes is due to the oxidation of the products, and in the absence of such oxidation is not manifest. At the end of the passage in question the author finishes with the statement, "Metabolism vivifies the energy potential in chemical compounds." As literature this sounds pretty, as a scientific statement it is permissible to ask what it means.

H. D., A. P.

**Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.** By Carl von Noorden. Authorized American Edition. Edited and translated under the supervision of Alfred C. Croftan, M. D.

**Part VIII. Inanition and Fattening Cures.**
**Part IX. Technic of Reduction Cures and Gout.**

The author's well deserved renown on questions of metabolism is a sufficient recommendation for the above books. They deal with subjects of vital interest to every medical man, for there are very few persons frequenting doctors' offices who do not require so-called "building up," or, on the other hand, advice against overeating qualitatively if not quantitatively.

The entire field of dietetics is one with which but a small proportion of the profession is familiar. There are various reasons for this, the principal one being no doubt that after glancing at various lengthy treatises on metabolism, the reader decides that the problem is a complicated one, and is content to continue feeding his patients in a haphazard way. As a matter of fact, there is hardly any one method of treatment so simple of application, so easy of control, so fruitful in results, as the dietetic. And there is no exposé of the subject so easy to read, so clear, and above all so practical, as the series of monographs by Carl von Noorden. R. B.

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**Handbook of Therapy.** Journal A. M. A., Chicago. Four hundred twenty-one pages. A compilation from the matter in the Therapeutic Department of the Journal of the American Medical Association, which has appeared during the last two or three years, published by the Journal of the American Medical Association.

This little book is decidedly worth while. It is a pleasing departure from the handbook of the usual type, in that it offers very good abstracts of very good articles which have been written sufficiently recently to present more than a glimpse of the present stage of metamorphosis that the treatment of many very common conditions is undergoing.

It does not deal with abtruse theories nor with untried methods nor does it deal with the treatment of every disease, in short, it does not aim to be a pocket edition of a system of medicine. This has allowed the editor latitude, of which he has very pleasingly taken advantage, to give greater space to matters of interest which may be properly dealt with in a short work, for instance, the six pages devoted to snake poisoning in the United States present very sufficiently a description of venomous snakes in the United States, the symptoms of poisoning, and an outline of practical treatment.

There is also an interesting extract on tobacco. Of the other subjects treated there is found a disposition to select subjects of interest and to deal with them in common sense way. The sketch of the treatment of myocarditis is worth rereading, in fact, it is difficult to pick out a single article that is not of active interest. Lest the reviewer be criticised as being over enthusiastic, it may be said that this is a dangerous book for undergraduates, who, only too easily develop the habit of relying on compendiums, but for physicians who desire to read something to fill in their odd quarter hours this little handbook is found very pleasant.

G. E. E.

## PACIFIC ASSOCIATION OF RAILWAY SURGEONS.

The eighth annual meeting of the Pacific Association of Railway Surgeons will take place at the St. Francis Hotel, August 26-27, 1910.

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## DAVIS MEMORIAL COMMITTEE OF THE A. M. A.

"The first year that your committee was appointed was marked by the unprecedented disaster to the great city of San Francisco, and it was felt that every effort should be made by our profession to relieve its suffering. Although very many wealthy members of our profession in San Francisco were utterly ruined financially, they, for the most part, heroically refused assistance, and the $5,000 voted by our association for this purpose was refused with thanks. The last contribution received for the Davis memorial was from Dr. R. F. Rooney, member of our committee from California, in the sum of $130, regretting that this amount was so little, owing to the great calamity which had befallen them."

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## NEW AND NON-OFFICIAL REMEDIES.

Chinosol (Chinosol Co., Parmele Pharmacal Co.).
Diaspirin (Farbenfabriken of Elberfeld Co.).
Nuclein Solution, Abbott (Abbott Alkaloidal Co.).
Nuclein Tablets, Abbott (Abbott Alkaloidal Co.).
Parathyroid Tablets (Armour & Co.).
Corpus Luteum Desiccated (Armour & Co.).
Pituitary Body Desiccated (Armour & Co.).
Pituitary Tablets (Armour & Co.).
Ferratin (Merck & Co.).
Arsenoferratin (Merck & Co.).
Arsenoferratin Tablets (Merck & Co.).
Arsenoferratose (Merck & Co.).

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## NEW MEMBERS.

**Rosenberger, H. G.,** Whittier.
**Cunningham, R. L.,** Los Angeles.
**Stephenson, C. C.,** Los Angeles.
**Brown, J. C.,** Los Angeles.
**Smith, S.,** Los Angeles.
**Townsend, V. R.,** Long Beach.
**Martin, M. L.,** Los Angeles.
**Morton, L. B.,** Pasadena.
**Colloran, J. E.,** Los Angeles.
**Remington, L. D.,** Monrovia.
**Clark, C. S.,** Arroyo Grande.
**Alvarez, W. C.,** San Francisco.
**Rude, A. E.,** San Francisco.
**Edwards, Wm.,** San Francisco.
**Bergener, G. J.,** San Francisco.
**Styan, Wm. E.,** San Francisco.
**Yerington, H. H.,** San Francisco.
**Scheier, R. B.,** San Francisco.
**Hicks, J. W.,** Hammonton, Cal.
**Cummings, R. S.,** National City.
**Janes, Manning,** La Mesa.
**Swearingen, A. Wm.,** La Jolla.
**Hart, Frank,** Santa Cruz.

## RESIGNED.

Dr. K. I. Howard, 1418 Larkin St., San Francisco.
Kibbe, M. E., Fruitvale.

## DEATHS.

Barber, R. D., Corona, Cal.
Burleigh, C. A., Forest Hill, Cal.
**McCracken, C. L.,** Redwood City.
Boxmeyer, C. H., Palo Alto, Cal.
Durst, Daniel, Wheatland.
**Baurn, R. W.,** San Francisco.

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## EDITORIAL NOTES.

**MEDICAL ILLUMINATION**

Dishonesty and incompetence thrive only in the dark of general ignorance; the light of publicity wilts these noxious weeds. Medical schools are getting publicity a-plenty in these days, and the month of June was rather an unfortunate one for a number of them. From two distinct sources came publicity in large quantities. The Council on Medical Education of the A. M. A. published its long-promised report indicating the relative standing of schools and pointing out directly those that should have no recognition without complete reorganization. The report of the Carnegie Foundation on Medical Education, made after a most careful examination of every medical school in the United States and Canada, by Abraham Flexner, was also issued in June, and is a monumental work so full of truths and so pregnant with food for thought that it will be eagerly read and its facts earnestly considered by all who are interested in medical teaching or medical progress. The "General Considerations" of medical schools in California will be found reprinted on another page of this issue of the JOURNAL, and are well worth careful reading. The frankness of the expressions descriptive of the conditions found in each school is at times startling, though undoubtedly true. "The school is a disgrace to the state whose laws permit its existence." "The school has no laboratory worthy of the name." These expressions refer to two schools in California.

**FLORENCE NIGHTINGALE.**

Florence Nightingale is dead at the age of ninety; fifteen years of suffering, during which time she has hardly left her bed, ended a remarkable career. Once in a long while a character is found strong enough to cope with some great problem. Such an one necessarily possesses uncommon zeal, energy and determination, the gift of presenting arguments so as to convince others, the faculty of organizing, the tenacity which brooks no discouragement, the courage which comes from perfect faith in one's calling. There has been much maudlin sentiment concerning this great English woman, but there was not a bit of it in her character. She acted promptly at a time when her services to her country were most needed. Her position was so peculiar, and she departed so radically from the confines of custom, that her labors attracted universal attention and her deeds were heralded throughout the civilized world. Her ascension to popular favor was meteoric and the short duration of her great active work has hardly a parallel in history. This activity was crowded into a period of twenty-one months.

It is difficult in this day to form a conception of the conditions which confronted her and which, in her brief campaign, she did so much to remedy. Those who remember the coarse, vulgar picture which Dickens draws of the English nurse "with her layings out and her lyings in" will have some conception of the task she was to perform. She found the women, who worked in the hospital wards of England, the lowest and most degraded types; rough and uncouth, dirty in language and person, and nearly always drunk,—the very dregs of the city. Such was the stigma attached to the occupation of nursing that no woman of decency dared, or cared, to enter the work.

Florence Nightingale came from a wealthy and influential family. Born in the Italian city on the banks of the Arno, she received from it her name, and with the name went its warmth and glow and sunshine. Her father gave her what in those days was considered a masculine education, but his daughter remained essentially feminine. After her bow to the Queen she entered the whirl of the London season, but, soon tiring of social gaieties, she cast about for more serious employment. Several illnesses in her own family resolved her to take up nursing and to create of it a profession. She found, after long search, some ardent souls in a little Lutheran institution on the Rhine, and here she remained some months, later supplementing this training by observation of the work of the Catholic sisters in Paris. She brought back her knowledge to London and began a life of active philanthropy.

War was declared between Great Britain and Russia in 1854, and both France and England threw

thousands of troops into the Crimea to protect Turkey against Russian aggression. The battle of Alma brought terrible losses and suffering to the English forces. William Howard Russell, the *Times* war correspondent, stirred the apathy of England by his masterly appeal. "The wretched beggar," he wrote, "who wanders about the streets of London in the rain leads the life of a prince compared with the British soldiers who are fighting out here for their country. Are there no devoted women among us, able and willing to go forth and minister to the sick and suffering soldiers of the East in the hospital at Scutari? Are none of the daughters of England, at this extreme hour of need, ready for such a work of mercy?" The country was thoroughly aroused, and the War Office was inundated with food, provisions and hospital stores, and applications for nurses from women of all classes. Sidney Herbert, the Secretary of War, was a close friend of Florence Nightingale, and his strong appeal to her to take charge of this work is a great document in British history. She accepted the charge immediately, and, after one week of preparation, left England at the head of a little band of thirty-eight nurses, ready to battle with a death rate of fifty-five per cent in the hospitals of Scutari, crowded to overflowing with wounded soldiers and lacking in food and the most common necessities of hospital régime. In the twenty-one months which followed, the "Superintendent of the Nursing Staff in the East" worked indefatigably. She came back to England an invalid.

At a dinner given to veterans of the war in the Crimea it was suggested that each guest write upon a slip of paper the name of the person whose services in the Crimean war would be longest remembered by posterity. When the papers were examined, each bore the name "Florence Nightingale." The enlisted man can never forget her services to him. "Wherever a British soldier treads her influence is felt, and will be eternal." But this marvelous influence which she exerted was not to remain in old England alone. It has penetrated into every civilized portion of the globe. Her self-sacrifice and the remarkable example which she set, cannot be forgotten. She established the profession of nursing and no cult has ever had for its founder such a heroine. She injected into her calling that deep sense of duty which will ever characterize it. Women who now wear the garb of nurse with dignity and honor owe it to the lofty traditions which she inculcated. She gave to nursing an individuality which marks it as a distinct line of work, and she commanded for it a respect which will be lasting. R. R.

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**CO-OPERATION IN WORK.**

Nowadays one does not go far in any line of activity without co-operating with his fellows. It is no less so in medicine. Through co-operative effort the physicians of this state, through the State Society, are now able to defend themselves properly and effectively against blackmail in the guise of malpractice suits, at a cost so low as to be almost ridiculous. With the benefits that the development of co-operation among medical men—the County and State Societies—now brings, it should not be long until every licensed physician in the state, who is eligible, is aiding in this co-operative effort and sharing in its benefits. The reverse of benefits accrue if instead of co-operation we have antagonism, envy and all uncharitableness. Poor incomes mean poor doctors, and the people who try to decrease physicians' fees really injure themselves; co-operation has in no small part checked the tendency to lowering of fees and in many sections has absolutely eliminated the contract and lodge practice pest. Further co-operation can eliminate it nearly everywhere. Just criticism is always good and advantageous; mere knocking always retards or takes away from the advantages of co-operation. Emulation is inspiring, but envy is a ton weight on the neck of him who carries it. But apathy is the deadliest of all enemies to co-operation and improvement; the "what's the use" attitude will well-nigh kill all ambition and enterprise. Criticize where you see something to criticize; but don't knock. Help your fellow physicians and your society, and you not only help yourself but you help the people under your charge. If a brother physician is eminently successful and you are not, do not waste your time in vain envy, but study to see where you fall short and emulate. Remember that "a smile in the heart is the secret of youth," and that a sour face grows nothing but grouches. This is partly apropos of a letter from Dr. Mattison sent to the various county society secretaries, asking for aid in getting proper support for the Public Health Commission of the state; the letter will be found on another page.

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**WHAT IS THE GAME?**

A member has written the JOURNAL calling attention to an effort now being made to separate some dollars from physicians in this state. The "Empire Life Insurance Co." of Seattle has at least one agent who is visiting physicians with the plausible line of conversation suitable to the case, and trying to sell them stock in the company as a preliminary to being appointed one of the company's physicians. Inquiry at the office of the Insurance Commissioner discloses the fact that the "Empire Life Insurance Co." is not licensed to transact business in California. Some honors are considered, by some people, to be worth paying money for. But does it seem to be very much of an honor to be appointed physician to a company that is not licensed to transact business in our state? It would hardly appear to be either much of an honor or a business arrangement at all likely to be profitable. The same company has been operating in the same way in New York and probably in other states, and it is not unlikely that an occasional unwary doctor has been found who was caught by the "get-in-on-the-ground-floor" line of talk, if not by the honor of being a medical director or assistant expert of one sort or another—*when the company began doing business.* Don't take stock in companies like this without fully investigating the whole proposition—and then think about it some more.

**STATUS OF OSTEOPATHY.**

So far as we are aware, no accepted definition of "osteopathy" is as yet a matter of record. According to the statute, it appears to be a method of treating the sick without the use of drugs or instruments, and, up to the present time, those following that cult have vociferously claimed that they practiced osteopathy and not medicine or surgery. But quite recently a change seems to have taken place. Elsewhere in this issue of the JOURNAL will be found some petitions relative to an application from certain osteopaths to be admitted to the Los Angeles County Hospital. This opens up a very broad question. Is osteopathy merely a form of practicing medicine? Is it merely a particular sect or school of medical practice? If so, why should there be any distinction made between that sect and any other? The spirit of all medical legislation of the present day is to put all applicants for a police license to practice medicine, no matter how they wish to practice it, on the same footing and require of them the same preliminary education and medical training, in order that the people may be, in some measure, protected from ignorance. For, after all, medical licensing acts are intended to be for the protection of the people and not to establish a limited and specialized class. This question is one that should be settled by the osteopaths themselves, and if they are acting in good faith they will promptly and properly settle it. There can be no tenable argument in support of the proposition that some practitioners of medicine, of whatever cult, should be more ignorant or better educated than similar practitioners of any other medical cult. There is only one rational medicine, no matter what manner of treatment may be selected by the individual. We believe that the foremost followers of osteopathy will agree with these fundamental propositions and that the weight of their influence will be directed toward a solution of these problems in a satisfactory manner.

## PROFESSOR EHRLICH'S NEW REMEDY FOR SYPHILIS.

Within a brief period astounding progress has been achieved in the knowledge of syphilis: the discovery of the spirocheta pallida as the etiological agent was soon followed by the Wasserman test as a means of diagnosis, and now a great therapeutic triumph has been announced from Germany. For some months past the newspaper press of Germany and Austria has been exciting the mind of the public with accounts of a remedy for syphilis in a manner which recalled the days of Koch's first experiments with tuberculin. Patients have been repairing to Frankfurt in the expectation of departing cured after a few hours of treatment. And indeed the accounts of Professor Ehrlich's discovery of a new specific for syphilis, which have of late been published in the medical journals of Germany, can hardly fail to arouse enthusiasm in the reader.

For some years past Ehrlich has been assiduously devoting himself to a systematic search for chemical substances which would cure infectious diseases. His goal has been the achievement of what he calls "sterilisatio magna," that is the destruction of all the parasites infesting a body, and that by the administration of a single dose. He had experimented with hundreds of substances on animals infected with trypanosomes or spirillæ before he announced that his labors had culminated in the discoverey that the injection of a single dose of Dioxy-diamido-arsenobenzol, prepared by Hata, and frequently mentioned in the current medical literature as "preparation 606," would free large primary lesions of the rabbit, which swarmed with spirochetes, from the parasites within twenty-four hours and effect a rapid healing of the lesions. The spirillosis of chickens can also be completely and permanently cured by a single injection.

Skepticism regarding the application of these discoveries to the treatment of human syphilis is disarmed by the testimony of a considerable number of clinical observers concerning the efficacy of "preparation 606" in several hundreds of cases. The spirochetes disappear from the chancre in twenty-four hours after an injection, and an effect has been noted upon them as early as six hours after. Syphilids of various kinds yield promptly to the treatment, even such as have been refractory to mercury and iodid of potash. Severe brain-syphilis has been rapidly improved. The lesions of an infant, five weeks old, with congenital syphilis, were cured in eight days. And all this after a single injection!

Neisser says that he has hitherto succeeded in but few cases in completely eradicating the disease. He suspects that the dose employed was too small. This was probably also the cause of relapses observed by others. In five out of fifty-five cases treated by one clinician, renewed manifestations of the disease occurred in thirteen weeks.

The Wasserman reaction was distinctly affected by the drug in many instances.

In the reports which we have seen, no observations are recorded of the effect of a repetition of the injections. Nor have we seen details of the results obtained in metasyphilitic diseases; there have been meager statements of a beneficial influence upon patients with early tabes and with paretic dementia, but they have not sufficed to overcome the pessimism with which these formidable sequels of syphilis have hitherto been regarded.

We understand that dioxy-diamido-arsenobenzol is a powder and that it is very difficult to prepare a practicable sterile solution. The solutions are strongly alkaline and their injection into the buttocks is followed by pain which renders the patient unable to walk or even stand for as long as a week. The intravenous injection is preferred by some, as it is less painful than the intragluteal, but the slower elimination from the muscle than from the vein is considered by some to be an advantage. A rise of temperature generally follows the injection, but there are no deleterious effects upon the heart or the kidneys, and above all none upon the optic nerves such as compelled the discontinuance of the use of atoxyl and arsacetin. To the fear of such noxious by-effects is, no doubt, attributable the timidity in the initial dosage of the remedy. The efficacious dose in animals is said to be but a small fraction of the lethal dose, and by bolder use on human subjects Ehrlich's ideal of a "sterilisatio magna" of a syphilitic body may yet be realized.

## ORIGINAL ARTICLES

### MEDICAL EXPERT TESTIMONY.

Something like a year ago, on motion by the writer, the council of the Los Angeles Medical Association appointed a committee to confer with the Committee on Revision of Laws of the Los Angeles Bar Association concerning legislation which should effect certain reforms in the appointment and general status of the medical expert in this commonweaith.

On March 18, 1910, a symposium on this subject was given at a meeting of the County Medical Association. Distinguished members of the bench and bar were invited to participate and the papers of the contributors to the symposium, representing views of the two professions, are published in this number of the Journal.

The committee is especially gratified at the sincere and cordial spirit of co-operation which members of the bar throughout the state have manifested in this subject. Our own profession, too, has shown equal earnestness in its determination to effect a reform in the status of the medical expert. At the Sacramento meeting of the State Medical Society, resolutions were unanimously adopted recognizing the great need of reform and endorsing any practicable statutory measures which shall improve present conditions.

The committee at Los Angeles feels it has a most efficient and potent executive helper in the person of Mr. Oscar C. Mueller, chairman of the committee on revision of laws of the local Bar Association. His hearty sympathy and co-operation have meant everything to us, and the committee feels our eventual success at Sacramento will be very largely due to the exceptional executive ability Mr. Mueller is showing in the development of this reform.

The committee assures the profession of the state of its high appreciation of the loyalty shown it everywhere, and invites the active personal endorsement of the bill which shall later be presented to the Legislature on medical expert testimony. This bill will be framed by officially delegated committees of the Los Angeles and San Francisco Bar and Medical Associations in joint conference, and it will go to Sacramento backed by the united influence of these organizations.

(Signed by the Committee.)

THOMAS J. ORBISON,
F. C. E. MATTISON,
ANDREW STEWART LOBINGIER,
Chairman.

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### Remarks of Oscar C. Mueller, Chairman of Committee on Amendment of Laws of the Los Angeles Bar Association, on "Medical Expert Testimony."

The present status of expert testimony is unquestionably a disgrace to both the legal and medical professions, and the earnest endeavors of Dr. Lobingier to free these professions from this stigma and have California pioneer remedial legislation, is indeed laudable. The testimony of the alienists in the Thaw case, for example, amounted to a bargain and sale of evidence. On account of the great wealth of the defendant's family, it was generally conceded that he employed the expert witnesses to argue the subject of the various forms of dementia, while on behalf of the state of New York, the expert was introduced for the purpose of showing that Thaw's actions were not caused by a diseased brain. Now the tables are turned, and to get Thaw out of the asylum his physicians testify that he is of sound mind.

NECESSITY OF REFORM.

"Believe no expert," says the cynic Bar,
Yet how unjust—all alike deride.
This swears white black; but straightway—haud impar,
An equal sage approves the candid side."

As long ago as 1874, Professor John Ordronaux declared: "There is a growing tendency to look with distrust upon every form of skilled testimony. Fatal exhibitions of scientific inaccuracy and self-contradiction cannot but weaken public confidence in the value of all such evidence. . . . Some remedy is called for, both in the interest of humanity and justice."

A judge of the Supreme Court of the United States declared in a leading case that "experience has shown that opposite opinions of persons professing to be experts may be obtained to any extent; and it often occurs that not only days but even weeks are consumed in examinations to test the skill or knowledge of such witnesses and the correctness of their opinions, wasting time and wearing the patience of both the court and jury, and perplexing instead of elucidating the questions involved in the issue."

In a celebrated case in New York City, the expert testimony required six days for its intruduction. Eminent surgeons were called and learned counsel examined them. When the judge charged the jury, he told them to disregard all of the expert testimony as the same was too contradictory!

In the famous Leutgert murder case in Chicago, the bones of the victim were discovered in a vat. Some of the most widely known osteologists of the age strenuously insisted that the bones in question did not belong to a human being, but belonged to a hog!

In another well-known case three doctors testified regarding the mental capacity of a man. Two of the doctors of vast experience differed radically. The third was a young practitioner, and he was believed while the other testimony was wholly disregarded, because of his pronounced impartiality. This would emphasize the necessity of a commission, which I will mention later on.

Another instance of contradiction was that of the trial of the Le Page murder case. Blood-stained garments had been subjected to chemical and microscopical anaylsis. Three doctors called by the state all testified that blood corpuscles could be restored to perfect shape after the lapse of many years, and that dried human blood can be distinguished from that of domestic animals. On the other hand, two leading physicians of Montreal testified positively

that after a period of two weeks it was impossible to restore corpuscles to their original size or to distinguish with any certainty human blood from that of other mammalia.

Dr. R. T. Williams of England shows the extent to which expert testimony could be introduced in an amusing manner. The question was one concerning condition of a witness. Dr. Williams said that he was drunk, and belonged to a class of drunkenness which he classified as "mellow, recovering from irritation." In response to a question by the magistrate, regarding the different classes of inebriety, he said: "As a matter of fact, drunkenness consisted of seven stages or classes: irritable, mellow, pugnacious, affectionate, lachrymose, sullen, and, if the doses were large enough, collapse and death."

### WHO ARE EXPERTS?

A witness who is shown to the satisfaction of the court to be a competent physician or surgeon, may state facts known to qualified members of his profession as to the effect, extent and tendency or professional knowledge regarding any disease; the symptoms of a given disease in body or mind; the usual period for recovery; what certain medical facts indicate; the effect commonly produced by age, death, disease, drugs, emotion or injury are all subjects of expert testimony.

The qualification of an expert may be controlled by statute. This was decided in a Wisconsin case, and it would be well to incorporate a section relating to that subject in statutes to be presented to the next Legislature.

### USE OF BOOKS.

In the matter of the introduction of medical books, several courts have taken the position that the books are not admissible in testimony, while others hold that the same are competent.

In Iowa, there is, for instance, a conflict between the State and Federal Court on this subject. The State Court will permit the reading of medical books to the jury, while the Federal Court in the same state has held that such evidence cannot be introduced.

In the state of New Hampshire an action was brought which involved the question of the setting of a fractured bone. In the opening address to the jury one of the attorneys offered to exhibit to them an engraving in a medical book to illustrate his meaning. The trial court refused to allow this, and this ruling was sustained in the Supreme Court, the Justice of this latter tribunal saying: "The engraving that was offered as a chalk alone was unobjectionable. The witness may use to illustrate his meaning and the counsel to illustrate his case any chalk, whether engraved or more roughly sketched, whether made with a pen or a pencil. If the diagram alone were offered and offered simply as a chalk, we see no objection to it. As the case shows, this was used as an engraving in a medical book. That makes it improper, because it gives it undue importance with the jury. The jury should not know that it was in a medical book or a law book, or what the book was that contained it."

Several years ago a criminal case arose in California in which the facts were as follows: The District Attorney was allowed over the objection of the defendant to read, as a portion of his argument, from a book called "Brown's Medical Jurisprudence on Insanity." After an extensive review of the authorities, the Supreme Court held that the lower court erred in permitting such reading, and the verdict of the jury was set aside.

Just the opposite view is taken in a criminal case in Indiana, and in a Texas case the court even excluded the United States Medical Dispensatory.

### FEES OF EXPERTS.

In a suit for damages against the city of Springfield, a physician, subpœnaed as a witness by the defendant, was asked a hypothetical question which he refused to answer, and gave this reason: "An expert witness is entitled to a different and greater compensation than an ordinary witness is allowed, and an expert is not required to give expert testimony without compensation as an expert unless a reasonable compensation shall have been paid or provided for. My reasonable fee for an expert or professional opinion in this case is $10.00. I have not been paid nor offered anything for compensation for my expert or professional opinion in the case, nor has said compensation been in any way promised to me or provided for. On the contrary, it has been expressly refused. Therefore, I decline to testify until such fee is provided for."

Held, that the doctor was in contempt by his refusal, and properly punishable therefor.

Now, really don't you think he was guilty of contempt for asking only $10.00 for his services?

Dr. Hammond of New York received a witness fee of $500.00 from the state in one case. His preparation for the trial occupied considerable length of time; his attendance in court involved many days and his testimony was of the most important nature. This fee was attacked by the defendant in the Supreme Court upon the ground that the physician was prejudiced and in favor of the state by reason of its size, but the Supreme Court of New York did not agree with this contention.

Upon the subject of compensation of expert witnesses, Judge Foster, a well-known law writer, says: "He is not a witness in the ordinary sense unless called merely to testify to some fact which he has observed—for then he is not an expert. His position and office is that of a sworn interpreter of science to the court."

In some states it is held that he is entitled to no more than an ordinary witness fee. In other states the direct contrary is the rule.

### HYPOTHETICAL QUESTIONS.

In the Thaw case six experts were examined; most of them had a national reputation, and were called upon to answer a hypothetical question consisting of fifteen thousand words. There is one hypothetical question on record which is longer—containing twenty thousand words, required two hours to read it, and was propounded to Dr. Jelley, a Boston expert on insanity, in the famous Tuckerman will contest. It involved the question of the capacity of the testator. The learned doctor an-

swered the twenty-thousand-word hypothetical question in three words, "I don't know."

The opinion of experts are to be regarded as conclusive by the jury only when the evidence and facts deducible therefrom are undisputed, and the case concerns a matter of science or specialized art or other matter of which the layman can have no knowledge. In a Wisconsin case, the expert was examined by way of a hypothetical question concerning the cause of a death. His answer was: "I judge the deceased died from suffocation; asphyxia, sometimes called." He was then asked that if in addition to certain appearances there were found marks on her throat—what would his conclusion be? He answered: "That she died of strangulation." The following question was then put to the witness: "Do you know from books or otherwise whether death is ever produced from strangulation without leaving marks on the throat—that is your own personal observation?" This question was objected to. The objection was overruled and exception taken. He answered: "In Taylor's Jurisprudence such cases are recorded." Question: "In standard medical works?" Answer: "Yes, sir." Question: "Is Taylor's standard?" Answer: "Yes, sir."

The court said: "It seems to us the court erred in permitting Dr. Cody to testify as to what was said in standard medical works upon the subject of strangulation, and what effects would be produced upon the body of the deceased when death resulted from such cause."

In most states the rule is the same. However, Iowa and Alabama admit such evidence.

### PHYSICAL EXAMINATION.

Upon the subject of physical examination, the Supreme Court of California has recently held that a plaintiff in a personal injury case must submit to such examination. There ought to be statutory regulations on this subject. There is a conflict of decisions all along the line. A Michigan case holds that no anesthetic or drug should be used in such examination. In Wisconsin, the court took the position that the plaintiff should not be compelled to submit to the use of surgical instruments; while in a railroad case in Kansas the court stated that the plaintiff could be compelled to submit to an injection of a drug in his injured eye to dilate the pupil. In a damage suit which went before the Supreme Court of the United States, the court used this language:

"The inviolability of the person is invaded by a compulsory stripping and exposure. To compel one, especially a woman, to lay bare the body without lawful authority is an indignity, an assault and a trespass."

In the California case, *Johnson* vs. *S. P. Co.*, 150 Cal., 535, it was definitely settled that the plaintiff had to submit to a physical examination, and the court there reviewed the authorities relating to examination of experts, showing that in New York the matter is controlled by statute and in four states the power is denied, namely: Illinois, Massachusetts, Texas and Montana. They quote approvingly a Minnesota case as follows:

"It is allowed the plaintiff in such cases to call in as many friendly physicians as he pleases and have them examine his person and then produce them as expert witnesses upon the trial, but at the same time it denies the defendant the right in any case to have a physical examination of plaintiff's person, and leaves him wholly at the mercy of such witnesses as the plaintiff sees fit to call, constitutes a denial of justice too gross, in our judgment, to be tolerated for a moment."

From an Illinois case as follows:

"When serious and permanent injuries are claimed by the plaintiff and he or she has submitted to an examination by a chosen physician or surgeon, who appears as a witness in plaintiff's behalf, and the nature, extent and effect of the injury are to be deduced from objective conditions, and so fully from no other source, no degree of sentiment will justify the refusal of the motion. When it becomes a question of probable violence to the refined and delicate feelings of the plaintiff, on the one hand, and probable injustice to the defendant on the other, the law will not hesitate; the court in making such orders in respect to time, place and person in every case having such due regard for the feelings of the plaintiff and proprieties of the case as the ends of justice will permit."

### USE OF WORDS.

One of the common faults of experts is the desire to use many technical words, and thus confuse court and jury.

In a case mentioned by Gilbert Stewart in his work on "Legal Medicine," a surgeon was called to testify on a trial for assult. He stated that he found the injured man "suffering from a severe contusion of the integuments under the left orbit, with great extravasation of blood and ecchymosis in the surrounding cellular tissues which were in a state of tumidity." Now, of course, after a jury has listened to such a description, it would seem that the patient was about to die or that his condition was exceedingly dangerous, while, as a matter of fact, the eminent follower of Hippocrates was describing a common ailment, which in the vernacular we call "a black eye."

### SUGGESTED REFORM.

Dr. Walton, a celebrated surgeon, writing in a Boston medical journal, said: "I think one of the dangers in giving expert testimony is the tendency for the expert to feel that he carries the whole case on his own shoulders, and must decide questions that ought to be left to the jury. . . . Finally, the scientific witness should come into court with clean hands and a pure heart, with sincerity of purpose, with a tendency and desire to ascertain and recognize truth whenever it may be found; to conceal nothing, mindful of his oath, which requires him to speak not only the truth, but the whole truth."

Dr. Wilbur of Syracuse, New York, said: "Expert testimony should be the colorless light of science brought to bear upon any case where summoned. It should be impartial and unprejudiced."

Among the reforms proposed by physicians might be mentioned those of Dr. E. W. Taylor of Boston, who urged experts as follows:

"1st. To refuse to testify upon the contingent basis.

"2d. To decline to prompt lawyers in the examination of other experts.

"3d. To maintain an inflexible determination to state the truth as he sees it."

From my own experience and from talking with judges, it would seem that a great many of the evils could be eliminated by the appointment of a commission of experts, to be selected by a judge of the county in which the case is tried, or by the presiding judge in a county like Los Angeles where we have twelve judges. This commission to have no connection with any public utility corporation or those establishments where personal injury actions are frequently originated and fostered. A commission would be better than one doctor, because we must recognize the honest difference of opinion—even among experts!

This plan of a commission, by the way, has been favored by the Harvard Law Review and other legal periodicals.

Hon. G. A. Endlich, a noted Pennsylvania jurist, in an address before the Law Academy of Philadelphia, suggested the following:

"1st. Formation of a stricter definition of expert capacity.

"2d. The reasonable limitation of the number of experts to be called in any case.

"3d. The payment of expert witnesses out of the public treasury, at least, in the first instance."

By making experts the appointees of the court, and their compensation not only sure but independent of the effect of their testimony, a prominent cause of supposed and often of actual bias would be eliminated.

In Michigan there is a statute limiting, in cases other than prosecutions for homicide, the number of expert witnesses who may be called by a side to three.

A Rhode Island statute provides for the appointment, on motion of any party, of an expert whose fees may be taxed as costs against the losing party, who shall make a report to the court and be thereafter examined at the trial.

An act to regulate medical expert testimony was introduced in the Legislature of Massachusetts in 1908. It was prepared by a joint committee of the Massachusetts Medical Society and the Boston Bar Association.

It covers the ground so well I want you to listen to the reading of it:

"1. At any time during the pendency of any action, suit or proceedings, civil or criminal, the court or any justice thereof in chambers, or in vacation, in any county, on his own motion may, and at the request of either party shall, appoint one or more persons, learned in the science of medicine, of not less than five years' actual practice thereof, and recommended as hereinafter provided by the leading incorporated medical society of the commonwealth as official medical or surgical expert advisers, who shall investigate the facts of the case and give their expert opinion on any material professional question arising therein and make written report thereon to the court.

"2. Such report shall be opened and filed in the case and shall have the same effect (and the parties shall have the same rights with reference thereto) as now given to the report of an auditor appointed by the court. Such expert upon the trial of the case may be called as a witness by either party.

"3. The Massachusetts Medical Society, the Massachusetts Homeopathic Medical Society and the Massachusetts Eclectic Medical Society shall each through their respective governing bodies, annually before the first day of October, furnish to the Chief Justice of the Superior Court a list of not less than fifty names of physicians of good professional standing in the various counties in their profession, whom they recommend as competent to serve as such expert witnesses, designating the specialty in which they are deemed to be experts, and giving their addresses, which lists shall be posted in the clerks' offices of the several courts.

"4. Upon such appointment by the court, or if the parties file an agreement designating an expert for the case, the clerk shall issue an order to the person so appointed or agreed upon, to be served in the manner provided by law for the service of subpœnæs. As soon as may be after service thereof, the expert witness shall make such examination of the case as in his judgment may be necessary and practicable, and shall file his report thereon as above provided.

"5. Such witness shall be paid for his services a reasonable compensation, to be allowed by the court and paid out of the treasury of the county. In all civil actions and proceedings the defeated party shall be liable to refund the amount so disbursed, including the service of the order, and after final judgment in the cause, execution may issue against him therefor in favor of the County Commissioners, or in the county of Suffolk of the city of Boston.

"6. Either party may call other medical witnesses than those designated by the court, but at his own expense, and only the ordinary witness fee allowed by law shall be taxed against the defeated party for such additional witnesses.

"7. The refusal of any person to be examined by a physician appointed as herein provided shall be admissible in evidence.

"8. This act shall take effect upon its passage."

Let us hope that if the Bar Associations and Medical Societies of California propose statutes to our Legislature that they will meet with a better fate.

(*To be concluded in the October issue.*)

## REPORT OF THE CARNEGIE FOUNDATION FOR THE ADVANCEMENT OF TEACHING ON MEDICAL SCHOOLS OF CALIFORNIA.

1 The Director of the Census states: "The cities of Los Angeles, Oakland, Berkeley and San Francisco have had such an exceptionally rapid increase that no estimates of their population have been prepared." The figures given are taken from the census of 1900.

2 "People are ready to pay for relief from distress and sickness. It is only fair to say that many of our graduates are earning as much in single months as they were formerly able to earn by a full year's work." (Catalogue, p. 9.)

3 During four months of 1909 there was a daily average of 44 free patients.

4 During four months of 1909 there was a daily average of 60.

5 During four months of 1909 there was a daily average of 55 city patients.

Population, 1,729,543. Number of physicians (exclusive of osteopaths), 4313. Ratio, 1:401.

Number of medical schools, 10.

LOS ANGELES: Population, 116,420.

(1) College of Physicians and Surgeons. Established 1903 as an independent school, it suddenly became, in 1909, nominally the medical department of the University of Southern California, when the former medical department of that institution cut loose in order to become the Los Angeles clinical department of the University of California. The seriousness with which the University of Southern California treats medical education may be gathered from this amusing performance.

Entrance requirement: High school graduation or "equivalent."

Attendance: 32.

Teaching staff: 41, 28 being professors. The teachers are practicing physicians; no one gives his entire time to the school.

Resources available for maintenance: Fees, amounting to $4075 (estimated).

Laboratory facilities: The school is ordinary in type. It possesses a small chemical laboratory, a single laboratory in common for pathology, histology, and bacteriology, with meager equipment and supplies, and no animals; a dissecting-room with sufficient anatomical material, and clay for modeling bones; a limited number of wet specimens, and a small number of books in a room that is locked, though opened to students on request. There is no laboratory for physiology or pharmacology. The building is new, attractive, and fairly well kept.

Clinical facilities: A considerable part of one floor is used for a dispensary. The rooms are poorly equipped and cared for; there is no clinical laboratory. The attendance is very small, for the neighborhood is decidedly well-to-do.

The school adjoins a private hospital in which many of the teachers are interested. It is, however, of no teaching use. The catalogue describes it as "not a charity hospital by any means . . . In fact it is a twentieth century classy hospital." For clinical instruction the students have access to the County Hospital, several miles distant, where the school has the use of 100 beds, holding clinics for senior students two days weekly. In surgery, students witness an operation without taking part in it; in medicine, the students make brief histories, which are, however, no part of the hospital records. Autopsies are done by the internes, who have no connection with the medical school. Students are not admitted to the obstetrical ward. Clinical facilities are thus extremely limited, for the management of the hospital is in no essential respect controlled by educational considerations.

Date of visit: May, 1909.

(2) University of California: Clinical Department. Up to March, 1909, this school offered a four-year course as the medical department of the University of Southern California; it has now become a second clinical department of the University of California, and will therefore offer after June, 1910, only the third and fourth years' work. See (6).

Clinical facilities: Its present facilities for offering the instruction of the last two years are, for a university department on a two-year college basis, distinctly meager. It enjoys at the County Hospital the same facilities as the local College of Physicians and Surgeons, i. e., access to 100 beds, two or three days weekly being devoted to clinics for the senior class. Additional opportunities, depending on the personal connections of members of the faculty, are usually of slight pedagogic value. The school has an excellent dispensary building, fairly equipped in certian respects, but indifferently conducted, though the attendance is good. It is also in close proximity to a good medical library. The clinical teachers are all local practitioners. The state university will incur no expense on account of this department for two years at least.

Date of visit: May, 1909.

(3) California Medical College. Eclectic. Organized at Oakland in 1879, this school has led a roving and precarious existence in the meanwhile.

Entrance requirement: Nominal.

Attendance: 9, of whom 7 are from California.

Teaching staff: 27, of whom 26 are professors.

Resources for maintenance: Fees, amounting to $1060 (estimated).

Laboratory facilities: The school occupies a few neglected rooms on the second floor of a fifty-foot frame building. Its so-called equipment is dirty and disorderly beyond description. Its outfit in anatomy consists of a small box of bones and the dried-up filthy fragments of a single cadaver. A few bottles of reagents constitute the chemical laboratory. A cold and rusty incubator, a single microscope, and a few unlabeled wet specimens, etc., form the so-called "equipment" for pathology and bacteriology.

Clinical facilities: There is no dispensary and no access to the County Hospital.

The school is a disgrace to the state whose laws permit is existence.

Date of visit: May, 1909.

(4) Los Angeles College of Osteopathy. Emigrated from Iowa in 1905. A stock company.

Entrance requirement: Less than an ordinary grammar school education, with conditions. Many of the students are men and women of advanced years.

Attendance: Began two years ago with 60, now claims "more than 250."

Teaching staff: 19. All the teachers are practitioners.

Resources available for maintenance: Fees, the

annual income being about $37,500 from tuitions and a considerable sum from "treatments" (see below). As the instruction provided is inexpensive, the stock must be a very profitable investment.

Laboratory facilities: The school occupies a five-story building containing a chemical laboratory, with meager equipment and limited desk space, and a single laboratory for histology, pathology, and bacteriology. The dissecting-room contains five tables, but sufficient material. The rest of the building is mainly devoted to treatment rooms and the business office.

Clinical facilities: There is no free dispensary. Patients who are willing to undergo treatment before a class pay not less than $3 a month; patients who are treated in the presence of a single student pay $5. A hospital is now under construction.

The general aspect is that of a thriving business. An abundance of advertising matter, in which the profits of osteopathy are prominently set forth,[2] is distributed.

Date of visit: May, 1909.

(5) Pacific College of Osteopathy. A stock company, established in 1896.

Entrance requirement Ostensibly high school graduation; but "mature men and women who have been in business are given a chance and usually make good."

Attendance: 85.

Teaching staff: 38, 19 being professors.

Resources available for maintenance: Fees, amounting to $12,750 (estimated).

Laboratory facilities: The school has an ordinary chemical laboratory, a fairly equipped laboratory for pathology, histology, and bacteriology, with a private laboratory for the instructor in these branches adjoining, the usual dissecting-room, and a limited amount of apparatus for experimental work in physiology.

Clinical facilities: A dispensary is carried on at the school, which also owns a hospital for obstetrical and surgical cases. The catalogue fails, however, to state that the students have no regular work in this hospital. They rarely see medical cases; "they don't have as much acute work as they should." Nevertheless, they are drilled to "treat gonorrhea by diet and antiseptics; syphilis with ointments and dietetics, and without mercury; typhoid, pneumonia, etc.," along the same lines.

Date of visit: May, 1909.

OAKLAND: Population, 73,812.

(6) College of Medicine and Surgery. Established 1902 as a stock company, stock partly subscribed by merchants of the town.

Entrance requirement: "High school or equivalent."

Attendance: 17.

Teaching staff: 32, 13 being professors. There are no full-time teachers.

Resources available for maintenance: The school lives on fees, amounting to $2760 (estimated), and on contributions from the faculty.

Laboratory facilities: It occupies a new, well kept building, has a small laboratory for experimental physiology, small separate laboratories for bacteriology, histology, and pathology, a beautiful, though not extensive, collection of pathological specimens, a laboratory for chemistry, a dissecting-room with provision for modeling, and a small library of slight value. Though there are no full-time teachers, there is evidence of active interest in pathology. Post-mortems are abundant and are intelligently used, through a fortunate connection of the instructor in pathology.

Clinical facilities: In respect to both dispensary and hospital, the clinical facilities are decidedly inadequate.

Date of visit: May, 1909.

SAN FRANCISCO: Population, 355,919.

(7) University of California Medical Department. Established as such 1872. An organic department of the university. The first and second years' work is given at Berkeley. See (2).

Entrance requirement: Two years of college work, strictly enforced.

Attendance: 36, all but 2 from California.

Teaching staff: 60, of whom 12 are professors. The laboratory courses at Berkeley are given by full-time teachers.

Resources available for maintenance: The department shares the university funds, its budget calling for $33,396. The total receipts from fees are $7004.

Laboratory facilities: The equipment and instruction are of the highest quality. The laboratories, though temporary in structure, are completely fitted up, in charge of high-grade teachers, abundantly provided with assistants and helpers. The sole question to be raised concerns the medical atmosphere, which, in several departments, is not strongly in evidence. In consequence, post-mortem work has not been hitherto cultivated, though abundant opportunities for it exist. The biological point of view prevails. This is not the case with anatomy, the teaching of which—thoroughly scientific in method and spirit—frankly meets the main purpose of the students.

Clinical facilities: Clinical instruction is given in San Francisco. The university hospital, its main reliance, is small but modern. It contains 75 beds, practically all available for instruction.[3] Bedside teaching is carried on; but post-mortem work for the benefit of the students is meager. Some additional clinical work is procured at hospitals maintained by the city and by the United States government. In general, the laboratory and clinical departments are not as yet effectively correlated. The teachers of the third and fourth years are, excepting the dean, practitioners who are not in touch with the laboratory work and ideals as realized at Berkeley. Efforts are, however, making to bridge the gap.

The hospital is unfortunately situated from the standpoint of a dispensary; such material as there is, is not well used from a teaching point of view. The students do not in all departments take an active part in the dispensary work. For example, in some of them they have nothing to do with making up the records, which are separately kept in the several departments. No report, showing the number or the distribution of cases, is obtainable.

Date of visit: May, 1909.

(8) Leland Stanford Junior University School of Medicine, on the Cooper Medical College Foundation. Until 1908, the Cooper Medical College offered a four-year course based on high school graduation. Its property has now been deeded to Stanford University, its buildings being the seat of the clinical department of Stanford University School of Medicine, the instruction of the last five semesters being given in Cooper hall and Lane hospital. That of the first three semesters is given at Palo Alto. As its present classes graduate, the Cooper Medical College passes out of existence and its faculty disbands.

Entrance requirement: Three years of college work.

Attendance: 16 in first year (fourth collegiate year). No other year's work has yet been given.

Teaching staff: 21, of whom 16 are professors. Six professors and one assistant professor give their entire time to medical work. The clinical professors thus far chosen have been taken from the former faculty of the Cooper Medical College.

Resources available for maintenance: The department will share in the general income of the university. A special library endowment amounts to about $250,000.

Laboratory facilities: These are provided at Palo Alto on the same scale as other departments there (anatomy, pharmacology, bacteriology, physiology, physiological chemistry). The school has an unusually valuable library of some 35,000 volumes and receives the main current medical periodicals, American and foreign.

Clinical facilities: Clinical work on the part of Stanford University is not yet begun. The university now owns the Lane Hospital of 125 beds, which has hitherto been conducted as a pay institution. Patients paying $10 a week are used for clinical teaching; seventy-odd beds are thus available, part of these being temporarily supported by the city.[4] The hospital is now under temporary control of Cooper Medical College until needed by the university. Its organization at present, from the teaching point of view, is seriously defective. Records are meager; no surgical rounds are made in the wards; obstetrical work exists only in the form of an out-patient department; post-mortems are scarce. No hospital report is obtainable. The catalogue statement that the hospital is a teaching hospital is hardly sustained by the facts.

The dispensary in the college building adjoining had in 1907 an attendance of 20,000, including both old and new cases. But the material, though adequate in amount, was not thoroughly used by the Cooper Medical College.

Date of visit: May, 1909.

(9) College of Physicians and Surgeons. Established 1896. An independent school.

Entrance requirement: "High school education or equivalent."

Attendance: 70.

Teaching staff: 53, 23 being professors. There are no full-time teachers.

Resources available for maintenance: The institution has no resources but fees, amounting to $7715 (estimated).

Laboratory facilities: The school has no laboratories worthy the name.

Clinical facilities: There are no adequate clinical or dispensary facilities.

Date of visit: May, 1909.

(10) Hahnemann Medical College of the Pacific. Established 1881. Homeopathic. An independent school.

Entrance requirement: "High school graduation or equivalent."

Attendance: 23.

Teaching staff: 35, 13 being professors, none of them full-time teachers.

Resources available for maintenance: The institution has practically no resources but fees, amounting to $2685 (estimated).

Laboratory facilities: The school occupies a small, well kept building containing the usual dissecting-room, a laboratory for elementary chemistry, one fairly equipped laboratory in common for histology, bacteriology, and pathology, and a small orderly library.

Clinical facilities: Several neatly kept but inadequately equipped rooms are set aside for a dispensary; the attendance is fair, the records meager. The main clinical reliance now is on a small number of beds paid for by the city in the Hahnemann Hospital, a modern institution close by.[5]

Date of visit: May, 1909.

GENERAL CONSIDERATIONS.

"Consideration of medical education in California may well start from the fact that, without taking into account the osteopaths—who abound—the State has now one physician to every 401 inhabitants, that is, in round numbers, about four times as many doctors as it needs or can properly support. Such an enormous disproportion can hardly be rectified within less than a generation; it makes radical measures in the interest of sound medical education not only immediately feasible, but urgently necessary.

"Legal enactment fixing a sound basis for future practitioners of whatever school, the grant of authority to the state board to close schools flagrantly defective in either laboratory or clinical facilities, or the institution of practical examinations for license, any one of these measures would at once wipe out at least seven of the ten existing schools, with distinct advantage to the public health of the state. As none of these schools has the resources indispensable to meet the rising tide in medical education, this outcome is in any case inevitable; legal regulation of the type indicated would merely hasten the day.

"Even then the situation of medical education in the state is not altogether clear. The University of California has not yet solved its problem. The sums it now devotes to medical education are relatively small; its clinical facilities in San Francisco are inadequate; it has not effectively organized what it there offers; it has not brought about team work between the two severed branches that constitute the department. If now it has proved difficult to perfect an organization covering two places separated by San Francisco Bay, what reason is there to be confident when the distance involved is five hundred miles? Nor does any practical need compel a step educationally questionable. The attendance in Los Angeles in the last two years on a high school or equivalent basis is less than thirty; it will fall still lower when the two-year college basis is enforced and transplantation from Berkeley to Los Angeles is required at the beginning of the third year. Moreover, the clinical prospects are by no means up to the university standard. The dispensary may indeed be adequately developed, but one hundred beds in the general medical and surgical wards of an old-fashioned public hospital, however supplemented by courtesies elsewhere, constitute a fragile support for a university department of medicine. The difficulty of controlling the teaching at Los Angeles by the scientific ideals of the university at Berkeley can hardly be overstated. Finally, with the present needs of the clinical department at San Francisco, it is not likely that the university can divert to Los Angeles the sums necessary to create a satisfactory department there. The move is explained on the ground that peculiar conditions exist in the state; it is, however, not clear why a long, narrow state is educationally in any different plight from a short, broad one; in either case, needless multiplication of medical schools is economically wasteful and professionally demoralizing.

"The university has undertaken to dominate two detached clinical departments, manned by local practitioners. There is nothing in the present status of detached clinical departments of this type to encourage confidence in the outcome. Before too far committing itself to this policy, it is at least worth inquiring into the advisability of concentrating its medical instruction across the bay, where a population of over two hundred thousand affords sufficient clinical material, and where a compact, effective, and organically whole university department of medicine, with a faculty, laboratory and clinical, selected on educational principles, could be readily developed.

"These considerations apply in some respects with equal force to the action of Stanford University in

taking over the Cooper Medical College at San Francisco. It is well enough to offer the laboratory sciences at Palo Alto, where the resources and ideals of the university insure high-grade instruction; but the entrance of the university into the San Francisco field in all probability portends the division and restriction of whatever opportunities the city may hereafter create. Lane Hospital can be developed into a teaching hospital of adequate size if very large sums are available for the purpose; its organization and conduct have been in the past pedagogically very defective; and the clinical professors so far appointed have been taken with one exception from the former Cooper faculty. With one university medical school already on the ground, a second—and a divided school at that—is therefore a decidedly questionable undertaking. There is no need of it from the standpoint of the public; it must, if adequately developed, become a serious burden upon the finances of Stanford University. If the experience of other schools and cities is to be heeded, the question arises whether Stanford would not do well to content herself with the work of the first two years at Palo Alto, and to co-operate with the state university in all that pertains to the clinical end.

"The situation just presented deserves to be studied carefully by all interested in medical education. What has happened in California is likely to happen elsewhere. Scores of schools are beginning a desperate struggle for existence. Their first impulse is to throw themselves into the lap of some prosperous university. The universities, not as yet themselves realizing that medical education is no longer profitable or self-supporting, are prone to complete themselves by accepting a medical department as an apparent gift. From the standpoint of the university this blunder will soon prove a serious drain, as increased expenditure on instruction and reduced income from fees reveal the actual state of affairs. From the standpoint of medical education and practice, the tendency in question is still more deplorable. The curse of medical education is the excessive number of schools. The situation can improve only as weaker and superfluous schools are extinguished."—(From "Medical Education in the U. S.," by Abraham Flexner, published by the Carnegie Foundation.)

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## THE CARNEGIE FOUNDATION REPORT.

The Carnegie Foundation was established in 1905 by Andrew Carnegie to provide allowances and pensions for teachers in colleges and universities coming up to the standards fixed by the Foundation.

Under the guidance of President Henry S. Pritchett, the functions of the Foundation soon exceeded Carnegie's original purpose. After beginning with the investigation and standardizing of the numerous colleges and universities it was gradually extended to the critical study of medical institutions. Hence the masterful report on medical education by Abraham Flexner, a report which presents in no equivocal terms an indictment of American medical education.

The medical schools of the country were previously investigated by the Council on Medical Education of the American Medical Association and by the Association of American Medical Colleges, but the findings of these bodies were largely statistical. Never before the advent of Flexner had a thorough and scientific investigation been made at the hands of a pedagogic expert.

The Carnegie report is divided into two parts. In the first the history and status of medical education in this country are clearly outlined. Here we find an account of the genesis and gradual development of that shameless American product—the greedy, predatory, short-cut, proprietary medical school, with its consequent over-production of uneducated and untrainable practitioners. These fraudulent, dishonest methods inveigle the naive, poorly equipped matriculant, follow and contaminate him during his much abbreviated annual courses, and then foist him upon the unsuspecting public to bring discredit, if not disgrace, upon the title of M. D.

How could it be otherwise when the stream is polluted at its source; if colleges seek to enrich themselves by wholesale violation of the laws regulating the practice of medicine and fail even to observe the conditions of their own published announcements? In business such methods are considered violations of contract and are made amenable to the criminal code. The practice, however, has prevailed for so many decades in the medical schools of this country that the element of fraud no longer surprises.

The fact that in no country of the world is charlatanry of every kind more rife or profitable than in the United States could not be brought too close to the door of the medical faculties, nor too soon to the knowledge of the public, whose sympathy and co-operation are indispensable for the success of any broadly devised educational movement. Indeed the public is beginning to realize the criminal side of the reckless overproduction of cheap doctors.

Special chapters of the report are devoted to, 1st, the growth and influence of laboratory courses (this part of the report will be made the subject of an additional review), which make the student respect facts, learn how to obtain them and how to utilize them; 2nd, the history and role of clinical teaching, "the outcome of which is in the end the supreme test of a medical school"; 3rd, the financial aspect of medical education, in which is demonstrated the necessity of state control, which would make it impossible for any institution to engage in medical education on any other than the best terms that the state is in a position to enforce.

The cost of running any one scientific department of the first two years of medicine in a satisfactory manner for classes of fair size approximates $10,000 annually, and then only meagre provision is made for any scientific activity on the part of the teachers. Experience shows that the yearly support of a legitimate medical school, in addition to the cost of maintaining its hospital, demands nearly two hundred thousand dollars.

Very significant in this respect is the increasing modern movement to relate medical education to the general system of schools of the nation, the trans-

fer of medical education to university surroundings, where a more systematic attempt may be made to segregate the unfit from the fit upon the threshold of the study of medicine.

In an admirable chapter on "the reconstruction of medical education," the undeniable right of the state to deal with the entire subject in its own interest is brought out. "The physician is a social instrument and society is bound to protect itself against unnecessary loss or peril. In fact the medical school is a public service corporation chartered by the state and given the benefit of the public hospitals because of the social nature of its service." Surely no one will deny the necessity of a system of reconstruction capable of reducing at once the number and improving the output of American medical schools, and surely no one disputes the undesirability of perpetuating the large number of schools, which were established regardless of need and regardless of the proximity of competent universities.

The Carnegie report proposes to reduce the number of medical schools in the United States from 155 to about 31 by the diversion of the worthy smaller schools into strong institutions of the university type and the merger of a large number of other schools. "Such a reduction would deprive of a medical school, no section that is now capable of maintaining one, and makes provision for twice as many doctors as we suppose the country now to need."

Abraham Flexner's dispassionate and philosophic discussion of sectarianism and its underlying causes makes a most interesting chapter and should be read by both physician and layman.

Whether, in the era of scientific medicine, sectarian medicine is logically defensible, Flexner answers by quoting Osler: "A new school of practitioners has arisen, which cares nothing for homeopathy and less for so-called allopathy. It seeks to study rationally and scientifically the action of drugs, old and new."

Post-graduate schools are characterized as "compensatory adjustments" or "under-graduate repair shops." The lack of proper hospital organization and equipment and the scrappiness of professional service combine to prevent scientific instruction in these stock companies, from which the suspicion of commercialism could only be dislodged by evidence of scientific activity. The teaching hospital and laboratories of the modern medical school will soon displace the post-graduate schools unless the latter "become the upper story of a university, incorporating themselves in accessible universities, taking up university ideas, and submitting to reorganization on university lines."

From the chapter "medical education of women," we gather the fact that the free admission of women to the medical profession has resulted in a decreasing inclination to enter it. Why should not their enrollment have augmented "if there is any strong demand for women physicians or any strong ungratified desire on the part of women to enter the profession?" However, in view of the marked movement toward coeducational institutions, "interne privileges must be granted to women graduates on the same terms as to men."

The second part of the report—156 pages—contains an alphabetically arranged description of the medical schools of the United States and Canada, mention being made in each instance of the ratio of physicians to the population, and the resources available for the maintenance of the school. While the statistics contained in Flexner's report show a marked reduction in the number of both medical students and medical colleges, it must not be forgotten that said statistics fail to include the eight flourishing osteopathic schools which have in large part replaced the weak, low-grade medical schools, and whose graduates are singularly favored by state medical laws.

No one can read the Carnegie report without being strongly impressed with the constant tone of honesty permeating it, the ring of truth—the truth that hurts. No one can fail to applaud the disclosure of the widespread hypocrisy, misstatement of facts in college announcements or otherwise, makeshifts in the enforcement of standards, deliberate violations of the law, etc. No unprejudiced mind can fail to perceive that, in the investigation of the too numerous medical schools, the aim of the Carnegie Foundation has been constructive, the interest of two classes being steadily kept in view, "first the youths who are to study medicine and to become practitioners, secondly, the general public, which is to live and die under their ministrations."

While opinions may differ regarding some of the "general considerations" which are reproduced on page 298 of this issue of the "Journal," no one conversant with the results of the investigations carried on by the California Board of Medical Examiners from 1904 to 1907 will deny that our State has fared better in the Carnegie report than actual conditions warranted. That the situation of medical education in California is very uncertain, indeed, almost chaotic, must be apparent to any impartial observer. During the past year three struggling California medical schools have sought refuge in the lap of a university. In one instance, the very grave pedagogic blunder was made of lowering the requirements, and eventually increasing the financial burden, for the sole purpose of throwing a life line to a superfluous institution; in the second instance, the old unfortunate experiment of a divided school was attempted with admittedly restricted funds; the third instance meant merely a change of name for a "high-school equivalent" proprietary medical school. With the exception of the lilliputian, but honest, Oakland School, the remaining California institutions—five in number—are mere legalized purveyors to certain state examining boards. Indeed, three of these schools could not survive the strict enforcement of the California law.* With less than an ordinary grammar school entrance requirement and only three courses, the Los Angeles College of Osteopathy annually supplies more prac-

* At the April session of the California Board of Medical Examiners the percentage of failures was as follows:
Graduates of medical colleges.....23.1
Graduates of osteopathic colleges (all from Cal.).....23.
Graduates of 7 California medical colleges.....22.

titioners than do the seven medical colleges of the state.**

This demoralizing, not to say calamitous, situation suggests two remedies: First, what President Pritchett aptly calls *professional patriotism,* that sort of regard for the honor of the profession and that sense of responsibility for its efficiency, which will "enable a member of that profession to rise superior to the consideration of personal advantage or social cliques." As long as practitioners look upon medical education as a perquisite of the medical profession, as a direct means of revenue and of clientele, just so long will the dawn of model educational conditions be retarded. Professional patriotism should cause the concentration of all material in a single clinical school located in San Francisco, where university ideals and resources would prevail. Professional patriotism should make it impossible for any material to be diverted to a polyclinic (the San Francisco Polyclinic, chartered in California as a medical college is not even mentioned by the Carnegie report in its study of the post-graduate schools—thirteen in number—of the United States), or any group of unproductive practitioners.

Secondly, "the *State Boards* are the instruments through which the reconstruction of medical education will be largely effected." Nowhere more than in California (logic and equity call for an amendment to the California Medical Act making the minimum preliminary educational requirements uniform for all applicants for licensure) has the power of the State Board been made use of in the purging of colleges, upbuilding of educational standards, and compelling respect for the written law, through, first, a systematic investigation of preliminary qualification; secondly, an unceasing inspection of medical schools; thirdly, the inauguration of practical examination for licensure. The necessity for the pursuance of the first two functions is ever present. The third function—examination for licensure—is unquestionably the most potent lever. Unfortunately, it is almost ignored, for, as Flexner justly remarks, "at present these examinations are not only without stimulating effect; they are actually depressing."

That written examinations are notoriously apt to follow beaten paths is well known to quiz masters and compilers of state board examination questions. In the conduct of examinations why do not state boards keep pace with the rapidly improving teaching methods? Why, for example, does the California Board cling religiously to the examination forms and customs inaugurated seven years ago and refuse to subject applicants to the only rational tests—*laboratory and clinical tests,**** as practiced in other countries? Such tests at the hands of examiners chosen for their special training and knowledge would go far to check low standards, deficient equipment, bad teaching and failure to correlate laboratory and clinic. Examining boards drawn, not for geographical reasons, not from the political strong or popular practitioners, but from the best and most properly equipped elements of the profession, intelligently organized, provided with adequate funds and guided by practical methods, would soon sound the death knell of short cuts in medical education, and thus protect both the prospective student and the public health against the "formidable combination made by ignorance, incompetency, commercialism and disease."

** The St. Louis College of Physicians and Surgeons, following the precedent established in 1907 by a San Francisco school of not dissimilar name, has begun suit, in this instance, against the Carnegie Foundation for $150,000. With the Council on Education of the A. M. A. and the Association of American Medical Colleges tendering corroborative evidence to the Carnegie Foundation, we may expect the St. Louis litigants to again follow the San Francisco example and ask for the dismissal of their suit.

*** The fitness of a Western examiner in bacteriology was well exemplified by his reported cures of hay fever by injections of hay bacillus.

## THE CARNEGIE REPORT.

### A COMMENT.

The Report of the Carnegie Foundation, though an indictment of medical education in the United States, is just. Without expressing any opinion regarding the report so far as it relates to the conduct or equipment of any school in particular, I think that the findings in general regarding medical education in our country are warranted by the facts.

While our people have shown enthusiasm for education in general, they have given little or no attention to the training of skilled practitioners either in medicine or law. For generations public opinion has demanded the widest possible diffusion of education in the ordinary school branches and in higher learning as represented by the culture courses of our universities. It was perhaps natural in a young country like ours, where the energies of the people are devoted mainly to the development of our material resources, that the first additions made to the culture courses were those fostering material wealth. Perhaps it was for this reason that colleges of agriculture and the mechanical arts were deemed proper departments of a university. For several years presidents and boards of trustees of universities have considered it proper to devote funds derived from the public treasury or private benefaction to the maintenance of colleges of applied sciences and to the training of scientific practitioners of civil, mechanical, mining engineering and so forth.

Medical education has been left in the hands of those whose chief interests are in the active practice of medicine. Sometimes it has fared well, and sometimes very badly. At times it has been undertaken as a means by which practitioners might add to their professional prestige; at times as a commercial enterprise. It is to the credit of the medical profession that many of the best practitioners have devoted themselves to the training of students solely because of their love of the profession, their idealistic devotion to medical science and unselfish interest in teaching.

The time has passed, however, when medical education may be considered as a commercial enterprise, as a pathway to professional prominence, or be dependent upon the self-sacrifice of high-minded practitioners. The standards of medical education, the range of instruction, the qualifications of students must all be determined, not by the ambitions of practitioners or teachers, nor by the financial neces-

sities of colleges, nor by the longing of universities to cover or seem to cover the entire realm of learning, but by scientific truth, efficiency in practice, and the best interests of the public.

As the practice of medicine and of law affords the only means by which the liberties, property, rights, health and lives of the people may be conserved, scientific instruction in the principles of medicine and of law is far more worthy of the fostering care of great educational institutions than are those departments that relate purely to material wealth. It is proper that agriculture and the mechanical arts should rank among the activities of institutions of higher learning, but medicine and law instead of being outcasts or hangers on should be given the place of honor.

As the study of medicine must rest upon a foundation of chemistry, physics and biology, and as its pursuit requires a philosophic point of view and a scientific method, it can flourish only in an atmosphere of academic ideals. Medical colleges must do something more than train routine practitioners. The graduates must be so thoroughly well prepared that they will be able to give their patients professional care of the highest grade, keep pace with the advances in medicine even when revolutionary in character and, by a corps specially trained in sanitary science, conserve the public health. The teachers must be investigators or the graduates are likely to be mere artisans in medicine.

The report of the Carnegie Foundation is the most valuable contribution to American education made for a generation. It is a call to duty, and to duty of the highest order; a call which should be answered by all honest practitioners of medicine, by faculties, by boards of examiners, by trustees of universities, and by the public. If the call be heard and the duty performed, our people will be spared untold suffering and the span of human life in our country will be widened. A. A. D'Ancona.

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## A PROTEST FROM COOPER MEDICAL COLLEGE.

**The Carnegie Foundation for the Advancement of Teaching, 576 Fifth Ave., New York, N. Y.**

Gentlemen: We are in receipt of your report on "Medical Education in the United States and Canada." While in a general way we fully agree with your conclusions, and while we expect that your report will accomplish much towards improving medical instruction in our country, still we feel bound, in justice to ourselves, to correct a few errors which have crept into the report so far as our college is concerned. We are aware of the fact that such mistakes may occur, taking into account the vast territory covered, but we presume that you will gladly receive such corrections as are necessary for your own information.

Your statement in regard to Lane Hospital, that "it has hitherto been conducted as a pay institution," conveys an erroneous idea. It is true the larger number of patients at the Hospital so far have been private patients, but whatever surplus the Hospital has received from them has always been used for necessary improvements of the Hospital or Medical College, with the particular view of improving the teaching and scientific work in both. Since the establishment of the College no money has ever been distributed in the form of dividends to any one connected with the institution.

We acknowledge that the organization of the Lane Hospital from the teaching point of view is seriously defective. This is easily accounted for in a hospital where much private work must be done to keep the institution going. Your report says, "The catalogue statement that the Hospital is a teaching Hospital is hardly sustained by the facts." What the catalogue really says is this (page 17): "Lane Hospital was designed as a teaching Hospital. It has seventy-five teaching beds, which number it is hoped to increase in the near future." We have never claimed it to be a teaching Hospital, but have always relied upon the City and County Hospital, which was not even mentioned in the report, as our chief source of clinical instruction.

The statement, "records are meager," is not borne out by the facts. There are several teaching services from the College represented in the clinical wards of Lane Hospital. The histories naturally vary a little with the different men, but they are all quite full and complete, stenographers being employed by some clinicians. There is no foundation for the assertion that no surgical rounds are made in the wards.

It is also said that obstetrical work exists only in the form of an out-patient department, whereas a small but fully equipped obstetrical ward of six beds for teaching purposes was opened at Lane Hospital on July 2, 1908. In addition there are two free obstetrical beds in Lane Hospital which were given to the Fruit and Flower Mission with the understanding that the patients could be used for teaching purposes. In parts of 1907 and 1908, 104 cases were confined in Lane Hospital. In 1909 there were 167 clinical confinements, in 1910 to July 1, 83. The out-patient obstetrical clinic was somewhat small (67 cases in 1909), but well organized. Students are always accompanied by a competent instructor and have ample instruction in external clinic examination. None of our students sees less than six confinements and some many times that number.

You go on to say: "Post mortems are scarce" and in another part of your volume you refer to the inadequacy of the autopsy material at Cooper Medical College. It is true that the number of autopsies at Lane Hospital is comparatively small, but it should have been stated that the College controls good autopsy material at the City and County Hospital. Our pathological department has averaged from 100 to 150 autopsies a year for many years, and the material has been supplemented from other services at the City and County Hospital and by material obtained at the German and St. Luke's Hospitals. We believe that our pathological department is especially well equipped for teaching and research.

It should also have been stated in your report that the medical colleges in San Francisco are in an exceptionally fortunate position in controlling the clinical material at the City and County Hospital almost absolutely. The service at this institution, averaging annually over 500 cases, is divided between the medical teaching institutions of San Francisco, and the various colleges appoint the physicians in charge. The main clinical autopsy service of our College has always been at the City and County Hospital, where conditions were very satisfactory from a teaching point of view, until it became necessary to remove the old Hospital buildings. While the new $2,000.000 Hospital is being constructed, the patients are partly kept in the Hospitals in the city, where medical teaching is carried on, and partly at Ingleside Camp Hospital, where we now control 100 beds and use them for teaching purposes, although with some difficulty, on account of the distance and of lack of facilities. In the same catalogue that your informant refers to, it is stated on page 10: "At the City and County Hospital in San Francisco the College controls 100 beds, averaging about 1000 patients per year. The Hospital facilities will be greatly improved with the erection

of the new City and County Hospital which the City of San Francisco is building at an expense of two million dollars."

Referring to our Dispensary, upon which the College has always looked as one of its best assets, you say, "but the material, though adequate in amount, was not thoroughly used by Cooper Medical College," and underneath, "Date of visit, May, 1909." The latter seems to explain the former and also why it is said, "no surgical rounds are made in the wards of the Hospital." Instruction to the students in the Dispensary stops at the end of April, our commencement being in the beginning of May. It was impossible therefore for our visitor by personal inspection to ascertain how the clinical material in the Dispensary was used for teaching purposes. We do not wish to imply that improvement could not be made in our Dispensary service; we are far from assuming such an attitude, but we are positive that good scientific records are kept in all departments of the Dispensary, that the heads and assistants are competent teachers, and that the students have been given full opportunity to avail themselves of the clinical material as well by didactic clinics as by work in small sections in actual contact with the patients, as is shown by the enclosed schedule which was rigorously adhered to.

Thus not only has our chief source of clinical material and post mortems been ignored, and the fact that the College was not in session when the visit was made been overlooked, but Cooper Medical College with its Faculty, numbering fifty-six, of whom twelve were full professors; its eighty students; its many well supplied laboratories whose apparatus is inventoried at $15,000, although worth more; its several salaried professors and instructors, who receive $10,000 per annum; and its yearly expenditure of $25,000 for educational purposes, is scarcely given credit in the report for existence.

Copies of this letter have been sent to the Board of Trustees of Leland Stanford, Jr., University and to President David S. Jordan; to the California State Medical Society; to the American Medical Association; to the Association of American Medical Colleges; and to Mr. Abraham Flexner of Carnegie Foundation for the Advancement of Teaching.

By order of the Faculty of Cooper Medical College.

HENRY GIBBONS, JR., Dean.

## THE PROBLEM OF PRE-MEDICAL EDUCATION.*

By T. W. HUNTINGTON, M. D., San Francisco.

Conspicuous among many educational movements of the past three decades is that which concerns the portals to a medical career. From the educational as well as economic viewpoint we now approach this question with clearer vision and better understanding.

Gradually the curriculum has expanded to include many collateral branches of recent development, until it has reached the stage of overcrowding, and the conventional period of four years for its accomplishment is hardly sufficient.

With this manifest increase in the number of departmental branches, the problems presented are relatively more complex, and to the untrained, immature mind, simply bewildering. In schools of the *better* type, the knowledge of physics, chemistry and biology which underlie the work of the first year student renders matriculation and progress impracticable for the high school graduate.

A reading knowledge of French and German, without which the student will be measurably blind to two-thirds of the world's literature, is regarded as an essential in the student's equipment, forming another preliminary exaction in respect to time and energy.

Responsibility for the educational policy, here outlined, formidable though it be, is assumed by, indeed it is the boast of universities such as Harvard, Johns Hopkins, Columbia and many others which are engaged in the promotion of medical interests. These institutions are at once insistent upon the maintenance of their ideals, and unyielding in their attitude.

Ten years ago, Prof. H. P. Bowditch, of Harvard, wisely said: "One of the hopeful signs of the times, as regards medical education, is the growing tendency of the better schools to ally themselves with universities, and of universities to establish and foster medical departments."

This sentiment has become widespread and actuates, in a large way, those who control the destinies of modern schools. In fact, medical colleges have uniformly welcomed university affiliation without hesitation.

Aside from this consideration, the medical graduate must weigh carefully his chance of passing the state medical board's examination, which is rapidly becoming more and more formidable. The broad training which is manifestly an essential from this point of view, forms a strong incentive for matriculants to select the university type of school, and the life history of the proprietary school presents an interesting problem. Have such schools any assurance of perpetuity? and will the short route to a medical career be possible in the future?

The academic institutions have set a rapid pace along the entire line. Their only difference of sentiment has to do chiefly with the scope of pre-medical training and the time requisite for its attainment; *upon the main issue they are and certainly will be uncompromising,* and it seems reasonably certain that the weaker schools will find it impossible to maintain their status and keep in the race indefinitely.

President David Starr Jordan's opinion upon this point is significant: "I think that every medical school which receives men with less than two years of scientific training in college or its equivalent, is a source of harm, and not of help—I do not believe the proprietary school is a type to be maintained."

Under existing conditions the establishment or rehabilitation of a medical school suggests a magnifi-

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

cent undertaking. Generous provision must be made for a multiplicity of interests. This means expensive equipment of physiological, bacteriological, chemical, anatomical, pathological and animal laboratories. There must be maintained a modern hospital with liberal endowment of free beds; a free dispensary, various clinical laboratories and an X-ray plant. Finally liberal provision must be made for paid professorships, at least for the first two, and ultimately for the clinical years. President Pritchett, of the Carnegie Foundation for the Advancement of Learning, after an exhaustive investigation of the subject, tells us frankly, "that the conduct of a single scientific department of the first two years costs easily $10,000 per annum. A number of institutions, economically conducted, spend $15,000 or more on a single subject like pathology or physiology. A medical school which is not in a position to spend $50,000 or $60,000 per annum on the work of its first two years has omitted some part of its legitimate duty." Finally he says, "It will be difficult for any school to do its fair duty by a moderate body of students with a yearly income of less than $100,000." From other sources we learn that in twenty-five leading medical colleges, to teach each student costs from two hundred to seven hundred dollars or even more each year.

The burden has become so great that many universities, now maintaining fairly close relations with medical departments, view the financial problem with profound seriousness. In no quarter is the significance of this consideration more keenly felt than by those interested in the promotion of proprietary schools, with small endowment, whose main reliance is upon tuition fees. In a word, the conduct of manifold departmental interests entails a fixed expense wholly disproportionate to any income from tuition. This can only be met by governmental aid or by large private benefactions. Such resources are best sought through university influence whereby there is afforded ample guaranty for the perpetuity and efficient conduct of the institution. Moreover, the school which has for its motive, or at least for one of its motives, self-promotion or selfish gain, will less and less appeal to the sympathies and the generosity of philanthropists.

At the present time there are one hundred and fifty medical schools in this country. Many of these are maintained upon the basis of illy-paid or gratuitous services upon the part of teachers, and a system of instruction palpably inadequate. Dr. Pritchett insists that for the next century one-half or possibly one-third of this number, generously endowed and wisely administered, will furnish ample educational facilities for all interested.

Let us now consider whether or not the short route to a medical career will be one of the possibilities of the future. It is to be said first and always that to enter upon a career and to succeed in it are two distinct undertakings, and that in no human relation is the debasing influence of unpreparedness more sadly palpable than in the daily work of the physician. This consideration alone furnishes adequate incentive for the youth of to-day and of the future, at any sacrifice, to acquire his training from such source as will best assure him of success in the struggle for existence, which is now fierce and will become more so in coming years.

There is a sophistry, almost official in certain quarters, which pleads the cause of the poor-boy-aspirant to a career in medicine as an apology for schools of easy access, whose exactions at the beginning and end of a curriculum are markedly below those of the university type.

It is well known that tuition fees in the best schools are low in comparison to the cost to the institution, and it is apparent that the difference in actual cost of medical training in reputable schools of both types is insignificant. It is also a fact that living expenses can be minimized in one place as well as another.

As a matter of plain truth, for the poor boy of to-day there exist possibilities for full preparedness, not less than for his more fortunate fellow, provided he enter the race with high ideals and reasonable energy, prepared to make the necessary sacrifice. It should be more widely known that any boy of promise is encouraged to participate in the vast educational resources of Yale, Harvard, and other similar institutions without fear of serious financial embarrassment.

Finally let us consider the time exaction of the modern university medical curriculum and its true significance.

There is an English law maxim, "Time runneth not against kings." With equal force this axiom applies to the man whose scientific ideals incite him to prolonged self-sacrifice.

Undoubtedly the best intellectual endowment of the novitiate finds expression in the word enlightenment, which means distinctly a reasonable development of the faculty which makes for appreciation of exactness of method and correctness of interpretation.

Briefly, the teacher of to-day sees the utter hopelessness of the student who is lacking in that degree of culture which places him in command of a definite facility of execution, an accomplishment which is rarely found in the high school graduate of average age and experience. Accordingly, to the high school training there is now added two years of academic life before the student is confronted with the abstruse problems of professional preparation.

During this period the student obtains a new viewpoint. He is given an opportunity for the development of ideals, and by contact with trained minds he acquires added power of concentration and of sustained effort. He adds liberally to his store of knowledge and to his capability for logical deduction, and from any standpoint it is safe to say that the achievement of these two years will largely exceed that of any preceding period. So clearly appreciated is this fact that not a few of the student body voluntarily extend the time for pre-medical study to three or even four years.

# SOME NOTES ON NITROUS OXID AND OXYGEN FOR PROLONGED ANESTHESIA AND A REPORT OF A FEW CRITICAL CASES.

By EDITH HAMMOND WILLIAMS, A. B., M. D.,
San Francisco.

Nitrous oxid has seldom been used on this Coast as an anesthetic in major surgery, although extensively used by some surgeons in the East.* The addition of oxygen to nitrous oxid places it foremost among the anesthetics, because, following it the patient is strikingly better off than after ether narcosis.[1]

The following cases are of interest because they represent its most extensive use for major surgery in San Francisco as yet. I have successfully used nitrous oxid and oxygen for prolonged anesthesia in abdominal hysterectomies, appendectomies, oophorectomies, salpingectomies, exploratory laparotomies, for gastro enterostomy, cholicystotomy, ventral herniotomy, sigmoidexy, pneumotomy exophthalmic and simple goitre, mastoid, epithelioma of the face, epididymectomy, curetments, repair of the cervix and perineus, injections of the trifacial and supra orbital nerves, iridectomy, tonsillectomy, dental surgery, numerous cases of tonsillotomy, and many other minor operations, also experimentally to obtain positive pressure in chest surgery on a dog, proving the success of Dr. Bunnell's invention.[2]

*Method Used.* The anesthetic was begun with nitrous oxid alone, then about 2 per cent oxygen was added, which was gradually increased to 6, 8 or 12 per cent or higher when any cyanosis was present. From 100 to 250 gallons nitrous oxid was used an hour. A few of the cases had nitrous oxid ether, nitrous oxid and oxygen sequence [3] where the surgeons wished to be assured of relaxation. When ether was used the amount was very small and given for a few minutes only. In all long operations the gases were heated before inhalation.** [4] The apparatus used was the Teter, whose transparent face mask leaves the patient's features visible, by which the ether can be added without removing the mask; a definite percentage of oxygen added, and with which the vapors can be warmed and given under slight pressure.

The adults received a hypodermic of morphin gr. ¼ and atropin gr. 1/150, half an hour before operation.***

*Report of a Few Critical Cases.* Although it is a temptation to give a detailed account of many of the cases in my enthusiasm over the good results obtained, the only cases of real value are the operative risks where any other general anesthetic might have proved dangerous.

Case I. Thyroidectomy for Exophthalmic Goitre. After removal the gland weighed thirteen ounces. Nitrous oxid and oxygen anesthesia lasting one hour and nineteen minutes. The woman was very emaciated and extremely nervous and only after long persuasion entered the operating room. Before operation her pulse rate was 160 and weak, but during anesthesia it became stronger and went down to 120 a minute. The patient talked and laughed for the first minute, but after that the anesthesia was perfect. The patient was awake three minutes after the gas was discontinued and was not in the least nauseated.

Case II. Abdominal Herniotomy. Patient was suffering from shock and sepsis. Temperature 101.4°, pulse 140 and thready; white blood count 22,000 and hemoglobin 50. Pan-hysterectomy had been performed five days before. Sutures had ruptured and eight inches of bowel had protruded from wound for ten hours previous to second operation. Patient was constantly vomiting fecal matter. Patient had nitrous oxid and oxygen anesthesia for one hour and five minutes. Patient recovered, which would not have been likely after the decreased immunity to infection following ether or chloroform.

Case III. Mastoid. Patient a child of eight with an acute bronchitis and a dilated heart. White blood count 12,000, pulse rate 120. Nitrous oxid ether, nitrous oxid and oxygen sequence, lasting about 55 minutes. Pulse became very rapid and feeble toward end of operation, but color remained good. The patient was stimulated with caffein. On account of the weakened heart muscle, nitrous oxid would not have been safe if any cyanosis existed, but by using a high percentage of oxygen it was probably the best anesthetic for this case where any anesthetic, was counterindicated. The child kept cracked ice down immediately after put to bed, and in about an hour had ice cream, suffering from no nausea whatever, and in two hours the pulse had lowered to 100 and was much stronger. In another case with a much more serious heart condition I gave $N_2O$ and oxygen for 25 minutes (following a spinal anesthesia), in a prostatectomy for a malignant growth, without any harmful result, but did not consider it the anesthetic of choice here.

Case IV. Exploratory Laparotomy. Anesthetic nitrous oxid, ether, nitrous oxid and oxygen sequence lasting 25 minutes. Patient's condition very grave. One week before had a laparotomy to perform gastroenterostomy, as no food had passed through pylorus for a long time, but after breaking up numerous adhesions all over the intestines, patient's condition so poor that gastroenterostomy postponed. Present operation, abdomen tense with fluid, two large masses in liver and after abdomen reopened surgeons decided to drain for temporary relief. Patient not relaxed from ether when nitrous oxid and oxygen begun, but relaxation perfect under nitrous oxid oxygen; in this case anesthesia under gas more satisfactory than the ether narcosis. Patient was awake two minutes after gas discontinued and vomited a couple of drams of mucus on recovery.

Case V. Diabetic Case. Opening, curetting, draining indurated area in abdominal wall. Nitrous oxid and oxygen anesthesia lasting 16 minutes. Patient 60 years of age, weighing over 200 pounds. Had acetone, diacetic acid and casts in urine beside the sugar. Patient vomited once on awakening from gas, but otherwise made good recovery.

Case VI. Supra-vaginal Hysterectomy. Nitrous oxid and oxygen anesthesia lasting 2 hours and 5 minutes. Nitrous oxid indicated because of infected genito-urinary tract and because of excessive vomiting following ether after previous laparotomy for removal of tubes and ovaries performed in the country. Patient had large quantity of pus in urine due to a very severe cystitis. As catheterization was very painful, bladder was washed out under nitrous

oxid and oxygen anesthesia and patient put in Trendelenberg position before incision was made. At end of 45 minutes surgeon complained of rigidity and patient was given 2 ounces ether along with the gas and oxygen during the next five minutes, which gave the desired relaxation until the end of the operation. Patient was talking to us three minutes after last stitch was taken and had no post-operative nausea, or other ill effects.

*Length of Anesthesia.* The period of anesthesia in the above list of operations lasted from five minutes to over two hours. Two hours and five minutes is the longest nitrous oxid and oxygen anesthetic given in San Francisco as yet. It has been used for over three hours by anesthetists in the Eastern States. There is no limit to the length of time it can be used. Claude Lyons and Martin both have given a dog nitrous oxid and 15 per cent oxygen for three continuous days without any harmful results.

*Nitrous Oxid and Oxygen versus Nitrous Oxid and Air Anesthesia.* Nitrous oxid and oxygen anesthesia means that the patient breathes nothing but gas and oxygen throughout the operation, the mask being adjusted so that no air is admitted during the whole period. Those who have only seen nitrous oxid used without oxygen for momentary operations or to begin ether narcosis usually have witnessed some unpleasant experiences. Occasionally when an overdose is given those present may be frightened by asphyxial symptoms such as cyanosis, jactitations, clonic convulsions and even cessation of respiration,**** but the danger of these alarming symptoms is entirely overcome by the addition of the proper amount of oxygen.

Although nitrous oxid with air is more highly spoken of by some,[6] it will never be used extensively in major surgery, because air with nitrous oxid does not overcome the asphyxal element and oxygen does. The reason is in order to acquire a surgical anesthesia the gas must be given almost pure (about 90 parts nitrous oxid). It takes five times more air than oxygen to prevent symptoms of asphyxia,***** allowing only forty to sixty parts nitrous oxid, which is not sufficient for surgical anesthesia and will suffice only where the patient is in a very weak condition requiring a small amount of any anesthetic to cause narcosis as illustrated by Case No. VIII. Thus nitrous oxid and air results in more of an analgesia than an anesthesia, unless enough is given to get narcosis from the combined action of asphyxiation and nitrous oxid anesthesia.

I have used nitrous oxid with air in an abscess of the lung, a curettment, and in double decapsulation of the kidneys. Case VIII illustrates the type of case in which it is successful.

Case VIII. Double decapsulation kidneys in last stages of nephritis. Nitrous oxid and air anesthesia lasting 50 minutes. The man was very emaciated and almost blind from albuminuric retinitis. Patient never free from severe headache and vomited frequently. The patient was very weak and took less than 100 gallons nitrous oxid for total anesthesia. Differing from the nitrous oxid and oxygen anesthesia, he never became surgically anesthetized and occasionally moved his head and mumbled unintelligently. The sleep caused by nitrous oxid and oxygen is usually profound, but by adding air alone anesthesia is incomplete and nitrous oxid has a much more limited field.

*Advantages of Nitrous Oxid Over Other General Anesthetics.* 1. No degenerative changes have ever been demonstrated in any part of the body after its use. There are always some degenerative changes in the liver [7] and sometimes in other viscera following the use of chloroform and occasionally after ether. After these drugs numerous deaths have come from post-anesthetic acidosis. [8] It is common to find casts in the urine after ether, chloroform and spinal anesthesia. [9]

2. There are no harmful blood changes.[10] After ether there is a slight anemia and decrease in coagulation time. After chloroform there is a distinct anemia and hemolysis.

3. It does not add to the element of shock [11] as do other anesthetics, being ideal in critical cases apart from serious cardiac conditions. [12]

4. It does not decrease immunity to infection.******

5. There is no danger of post-operative pneumonia.

6. There is a great decrease in post-operative nausea and vomiting. Teter had in 13,000 cases only five who vomited continuously after nitrous oxid, the longest case lasting only six hours. [13]

7. Surgical anesthesia is attained in from 2½ to 4 minutes.

8. There is almost immediate recovery after the gas is discontinued.

9. During the operation the patient has no mucus, rarely vomits and the tongue never falls back.

10. It is ideal in obstetrical work, as it causes analgesia or even anesthesia, without muscular relaxation. It acts rapidly and is eliminated rapidly.

11. It will probably be a great advantage in thoracic surgery, as it has been used with success experimentally on animals.[2]

12. Nitrous oxid and oxygen is the safest known anesthetic. Bevan estimates the death rate to be one in 50,000, while the death rate from other anesthetics ranges from one in 1,000, to one in 15,000.†

*Disadvantages.* 1. It is expensive, costs from $6 to $9 per hour for material. The rebreathing method used in 700 cases recently at Johns Hopkins greatly reduces cost. [16]

2. It requires a special apparatus.

3. There is much more muscular rigidity than with ether, but morphin and small amounts of ether overcome it when present. Some surgeons learn to accustom themselves to it on account of the improved condition of their patients.

4. There is some danger from suboxidation, and venous congestion in certain cases, as in alcoholics and obese men.

5. It is counterindicated in serious heart conditions on account of the increased work put on the right heart from venous engorgement if any cyanosis is present.

6. It requires more skill to administer than other anesthetics. To quote from Crile, "It has certain dangers which are almost wholly in the hands

of the skilled anesthetist; it is not the anesthetic of choice for the uninitiated, but only for the highly trained anesthetist."

* Geo. Crile, A. D. Bevan, C. Webster, Howard Kelley, Halstead, Andrews, Parker, Kolisher, Beck, Baccus, Lobdell, etc.

** By heating nitrous oxid about 100 gal. less gas is used an hour beside causing a deeper narcosis, more complete relaxation and less cyanosis.

*** Morphin quiets patient, gives better relaxation and less anesthetic is required after its use, and aids in avoiding shock. (5)

**** Gwathney has proved experimentally on dogs that even when respiration ceases it begins again spontaneously after removal of the gas and that it is almost impossible to kill an animal with nitrous oxid.

***** The cyanosis is, of course, very different from that caused by other general anesthetics, being deficient oxygenation merely while the cyanosis of ether and chloroform is due either to impaired heart action or to atony of the capillary vessels.

****** Crile says, "The difference is so striking that only a great emergency would now induce us to use ether instead of nitrous oxid in grave infections."

† Hewitt says (14), "There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications." He had given it 17,000 times. Thomas, of Philadelphia, (15) has given it 271,940 times with only one death.

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## FRONTAL SINUS SUPPURATION.*

By HILL HASTINGS, Los Angeles.

On the subject of Frontal Sinus Suppuration, assigned to me for this evening, I will confine my remarks to a few points, lest I occupy too much of your time.

*1st. Its Occurrence:* There is no doubt that frontal sinus suppuration occurs more frequently than the general practitioner realizes, but not so frequently as suppurative otitis media. We specialists are apt to imagine we see hundreds of cases and yet if you carefully go over your records *you* are surprised to see how few case-records show frontal sinus suppuration. I have from my private records, twelve acute and thirty-four chronic cases. Of course, this does not include the many cases of "cold in the head," where for the time being there is in almost every case some inflammation of the frontal sinus. When one realizes that out of the thousands of cases of "cold in the head," but a few cases of frontal sinus suppuration remain as after results, one must come to the conclusion that Nature takes care of the great majority of all cases. Recovery takes place just as recovery takes place in cases of acute bronchitis, acute pharyngitis, acute pneumonia and other acute infectious diseases, which are self-limiting. But in the small minority of cases of "cold in the head," recovery is incomplete, one or both sinuses being left in a state of empyema. Such cases certainly need to be diagnosed, for most of them are capable of being cured. The patients themselves rarely complain of anything except "catarrh," but vague symptoms, such as dull headache and eyeache are frequently present.

*2nd. Diagnosis:* Antrum suppuration can be proven absolutely in every case by use of a trochar. On the contrary, frontal sinus suppuration can not be always proven without external operation, for in many cases I believe most of us will fail to satisfactorily catheterize the frontal. But we do have other means of arriving at a fairly sure diagnosis—1st, the presence of pus in the middle meatus, while equally significant of anterior ethmoidal disease, is nevertheless fairly indicative of frontal suppuration if the pus continues to drip, even after cleansing and mopping away, provided the antrum has been excluded by puncture; 2nd, trans-illumination in every nasal case should be a regular routine procedure. It is simple and quickly done. I think it of great diagnostic value, even though you may find it at times misleading. Suppose that it does fail you in a few cases, but serves you in the majority of cases, it is

* Presented before the Los Angeles County Medical Association, Eye and Ear Section, March 7, 1910.

manifestly of great value. On these two signs one is justified in removing the anterior one-half of the middle turbinate and as much of the ethmoid as can be safely removed and then endeavor to prove the diagnosis by the catheter. Even then, in a few cases, one will fail to satisfy himself that he has put the catheter into the frontal sinus. The skiagraph is of value here, and likewise of value in determining the shape and size of the sinus.

In my series of 46 cases, 12 were acute empyema cases—that is, the "cold in the head" had cleared up, but the frontal suppuration was left unresolved; while 34 were chronic cases. The right frontal was affected 13 times, the left 13 times, and both 15 times, while four cases were not noted.

Trans-illumination was proven 22 times, and not recorded in 24 cases; frontal headache was complained of in only 18 cases; eyeache in only 12 cases; frontal tenderness in only 18 cases out of the 46 cases; frontal oedema, four times; frontal fistula, four times; (the result of incomplete operations).

The orbital complications noted are: edema of eyelids in seven cases; ptosis in one case (left frontal), displacement of eye in one case; retro-bulbur neuritis in one case * (probably resulting from posterior ethmoidal disease which coexisted); intra-cranial complication in two cases—one extradural abscess, found at operation without any preliminary diagnostic signs or symptoms; the other case, an extradural abscess, which had caused severe symptoms, namely, convulsions, followed by stupor. Both patients recovered after operation.

One of the 46 cases, a patient turned over to me during the absence of a confrere, turned out to be a sarcoma. That patient died several months later, and was the only case in which death resulted.

I, personally, operated by the external route in but four of the 46 cases and assisted in two other cases, making six external operations in 46 cases. Of the four personal cases, one was a double-frontal, in which a frontal fistula existed for over one year. The external operation was therefore a necessity. The second case presented a soft fluctuating swelling, result of necrosis of the outer table, and hence required external operation. In the third case there was no external defect, but external operative measures were taken because of severe frontal headache, acute tenderness, subnormal temperature, and vomiting. In the fourth case a "Killian" was done because the patient complained of severe headaches, but then only after three months of persistent and unavailing intra-nasal treatment, including catheterization of the frontal sinus as routine procedure. In the two consultation cases a fistula existed in one case; acute tenderness, edema and fever in the other case. An epidural abscess was found at operation.

To recapitulate, six of the 46 cases were operated externally; while the remaining 40 cases were operated or treated by intra-nasal measures; and of the six cases, all but one had either fistula, fluctuating swelling or severe acute symptoms.

This experience about represents the conclusion I have formed in the last few years, namely that the external operation should rarely, if ever be done, simply because of the cronic nasal discharge; but there must be more severe localizing symptoms endangering life or fistula formation. I believe this for several reasons,—1st. The external operation is a disfiguring operation in most cases; 2nd, it is apt to be a failure in the sense that it does not always stop the discharge for which it was done; 3rd, it is a dangerous operation in inexperienced hands and not free from danger even in experienced hands.

For instance, Logan Turner in 1904 had collected 24 fatal cases as post-operative mortality. The craze for the radical external operation had then only begun; how many deaths have been reported since and how many more have occurred but never been reported, can only be guessed at.

The remaining 40 out of 46 cases were treated by intra-nasal measures. Time does not permit a full discussion of the various procedures. In a general way, removal of the anterior end of the middle turbinate, removal of polyps and diseased ethmoidal cells are the measures necessary to obtain better drainage from the frontal sinus. After this is done, most of the frontal sinus cases can be irrigated and kept clean and it is surprising how many will entirely recover simply as the result of securing drainage and mechanically cleansing the sinus. I have used argyrol in ten to twenty per cent. solution in several cases for periods of many months, thinking there would be some special virtue in argyrol. I cannot say that I secured any better result than from boric acid or normal saline irrigation. In one case I had cultures made of the pus from the frontal sinus and a vaccine made which I used for a month without any apparent benefit. This has been my only experience with the use of vaccine in frontal sinus trouble. In several cases I did a resection of the nasal septum, especially correcting the deflection of the uppermost part, so as to permit better view of the middle meatus, before doing the operative work in that region. I believe this is a most serviceable step, not only in securing better drainage but in permitting more thorough work and better catheterization. These intra-nasal measures are so safe and so manifestly improve the drainage possibilities that I believe they should be done in every case of frontal sinus suppuration. I have not attempted to enlarge the naso-frontal duct by any of the methods suggested for this operation. From the study of the anatomy of this region, I have felt that any attempt to enlarge the duct by chisel or gouge or rasp would be unsafe and unjustified in my hands. One must, however, conclude from reliable reports that there are a few men who have developed the skill and technic to perform this delicate operation successfully. I do not believe the average Nose and Throat man should attempt it.

* Reported, Annals of Otology, Rhinology and Laryngology, September, 1906.

## TWO CASES OF TUMOR IN THE FOURTH VENTRICLE AND CEREBELLUM.*

By L. NEWMARK and MILTON B. LENNON, San Francisco.

In both of these cases vomiting was the initial symptom. It was not until late in the first case that the diagnosis was made, and it was only through the experience gained in the first case that a diagnosis of the location and nature of the disease was ventured early in the second.

The first patient, L. Z., was thirty-five years old when he came under the observation of one of us in January, 1903. He related that in November, 1902, he had had considerable vomiting and dizziness for several days; it ceased after he had taken some phosphoric acid. He then went to New York, and there the vomiting became very troublesome. He never succeeded in raising his gaze high enough to see the top of the Flatiron building, as an attempt threatened a vomit. Dizziness attended the vomiting. At the time of our first examination he was fairly safe while he remained in bed, but when he arose he felt a slight vertigo and soon vomited. He could not say that he felt as if he were turning or swaying or that the room was turning about him. He had no headache.

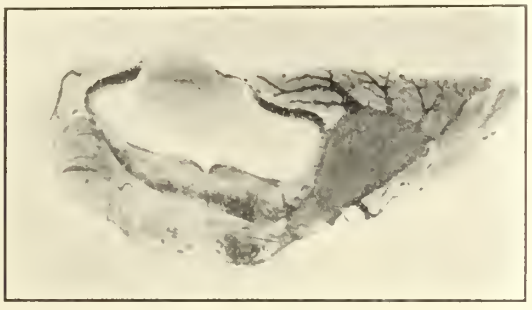

Fig. 1.

After a thorough examination nothing abnormal in the central nervous system was demonstrated. Dr. J. O. Hirschfelder examined the stomach and found it normal. The passage of a galvanic current through the patient's head, either transversely or in a fronto-occipital direction, did not cause dizziness and did not make him vomit. His appetite was good. For a while during the month of February he vomited only once daily, and gained in weight. The vomiting generally occurred in the morning before breakfast, but he might go all day without vomiting and then vomit in the evening. There was a constant feeling of unsteadiness, but his gait was normal at this time.

The vomiting was cerebral in character, and those who were concerned in the case looked carefully for signs of disease in the cerebellum, the medulla oblongata or the labyrinth, but they could only express suspicions and leave it to time to confirm or refute their opinions. We lost sight of the patient at the beginning of March and did not see him again until one day in June, when one of us met him in the street. He said that he had not vomited for two weeks, but was not sure of himself yet. He was walking with an attendant, who held him by the arm, and he made the impression of a blind man who was being led. From July on, thanks to the kindness of Dr. Krotoszyner, we were again enabled to observe him regularly.

* From the Neuropathological Laboratory of the San Francisco Polyclinic.

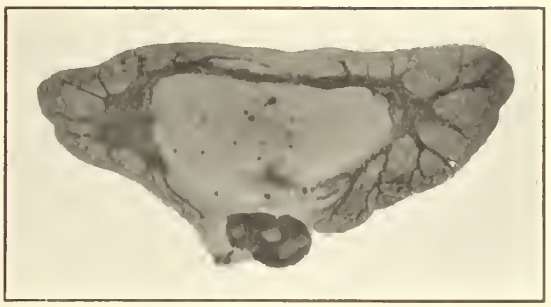

Fig. 2.

In the patient's boyhood his right eye had been operated upon for traumatic cataract. Vision with that eye was reduced to counting fingers. The pupil was oval, the disc light gray, and there was a large white patch in the choroid. Between the end of January and the beginning of March the left eye was repeatedly examined and the fundus found to be normal. As late as the 8th of June Dr. Nagel found nothing wrong in the left eye; but on the 4th of July he observed that the edge of the disc was not as clear as it had been on the 8th of June, and this together with a contraction of the visual field for red and green seemed to Dr. Nagel to justify the assumption of an incipient optic neuritis. It was not, however, until about the middle of August that the optic neuritis became well marked. The disc then became choked, retinal hemorrhages supervened and vision was considerably impaired. At no time in the course of the disease was any further change observed in the background of the right eye.

When re-examined in July the patient presented signs of disease of the cerebellum. He had difficulty in maintaining his balance; it was at first slight, but during the following month it grew worse. The tendency was to fall forwards or backwards. Finally he could not balance himself at all and became bedridden. There was lateral nystagmus. Headaches at that time were mentioned by the patient only when inquiry was made about them: they were at first infrequent, but very severe when they did occur. In August they became very frequent and very severe; the pain was chiefly in the occiput. The vomiting continued. Although his appetite remained good he grew thin and feeble. Hiccoughs were frequent for weeks before his death. Swallowing was undisturbed. The functions of the cranial nerves were preserved. Ataxia of the limbs was not distinct: sometimes there was some uncertainty in touching the tip of his nose with his finger, but the results of this test were not constant. There was no paralysis or disturbance of sensation in the extremities. The tendon reflexes were very lively; sometimes there was patellar clonus, and ankle clonus could generally be elicited in the latter stage of the disease. The plantar reflex was perfectly normal throughout.

In the month of August mental changes were noticed for the first time; an irrelevant remark would startle his wife, and it was also noticed that his memory was failing. The memory was poor only for recent events and this defect did not escape the patient himself. During the last five weeks of his life he frequently became very much confused as to time and place; but he often participated intelligently in the conversation of those about him and preserved his native cheerfulness and wit almost to the last. He died on the 12th of October, 1903.

It will be seen from the foregoing account that the course of the disease throughout the greater part of its duration was rather monotonous, for the

symptomatology was confined for several months to the vomiting. As late as July, after the patient had been vomiting for about eight months, there was so little to base the diagnosis of a tumor upon that one observer of the case suggested that the disease might be multiple sclerosis, the disc at that time being rather pale in its temporal part, though the edge was blurred. With the unmistakable appearance of the papillitis, the cerebellar staggering and the headache it became certain that the cerebellum was the seat of disease, but we were equally certain that the cerebellum had become only sceondarily involved. For headache and papillitis are early symptoms in cerebellar tumor. In the absence of signs pointing to the pons or the medulla oblongata the fourth ventricle was thought to conceal the offending growth; it was suspected that it might be a cysticercus. Needless to say that specific treatment had been tried.

Fig. 3.

After the brain had been removed from the skull no tumor was visible on the surface; but when the medulla oblongata was raised a little it was seen that the fourth ventricle contained a pathological product. Transverse sections including the cerebellum were made through the pons and medulla oblongata at various levels and stained with hematoxylin to exhibit the myelinated nerve fibers.

A round-celled sarcoma was revealed in the fourth ventricle, extending from the level of the corpora quadrigemina to the caudal region of the medulla oblongata. Its size increases gradually from the upper to the lower levels; thus, it measures about the region of the emergence of the trigeminus ¾ of an inch to one inch from right to left, at the level of the abducens 1¾, and in a section comprising the cerebellum and the medulla in the region of the nuclei of the columns of Goll and of Burdach a little more than two inches. It does not invade the tissue underlying the floor of the ventricle at any point, but has dilated the ventricle enormously by pushing aside and compressing the superior cerebellar peduncles, which are connected by a thread of medullated tissue, the remnant of the anterior medullary velum, forming the roof of the ventricle (Fig. 1); and lower down it has grown into the cerebellum, destroying all the vermis included between the two corpora dentata and the medulla oblongata (Fig. 2). In the pontile regions of the fourth ventricle the growth is attached to the roof of the ventricle and projects into the space below.

Case II. In January, 1905, Dr. T. Edward Bailey referred to one of us R. W., a printer, 32 years old, who was troubled with vomiting, especially in the morning. There had been nothing about him to suggest a serious affection of the central nervous system, but as treatment applied to his stomach had not benefited him it was thought proper to seek for the disease in other parts. But a thorough examination in the month of January, 1905, revealed no lesion of the brain or cord. Turning abruptly, looking upward or downward, provoked at that time neither dizziness nor vomiting. The patient mentioned that he felt dizzy at times. Mindful of what the previous case had taught the suspicion was expressed to Dr. Bailey that the patient might have a tumor in the fourth ventricle. He was seen a few times more early in 1905, but nothing more was discovered than at first. There was no headache at all. Then many months elapsed during which we did not see him, until he presented himself again on the 25th of October, 1905. He had now severe pains in his head, especially through the temples, and his vision had failed. He continued to vomit. The symptoms observed on this occasion were beginning optic neuritis, more pronounced in the left eye than in the right, slight nystagmus, particularly when he looked to the right, and exaggerated knee-jerks.

In the course of the next two or three months the discs became more swollen, the nystagmus increased in intensity and was provoked by the turning of the eyeballs in any direction, and the paroxysms of headache grew very severe. It was reported that he would vomit four nights out of six, that when seated in a low rocking-chair he had pitched forward, and that his memory was poor. He could walk about the room without staggering, and, according to his brother's testimony, his gait in the street would be steady for a quarter of an hour at a time and then he would suddenly give a violent lurch, generally to

Fig. 4.

the right. On January 4th, 1906, it was noted that when he stood with his feet quite close together, with his eyes open or closed, his station was remarkably steady. From this time on he complained of paresthesia in the left side of the tongue and lower lip, or in the upper teeth or the cheek on the left. It seemed sometimes as if the sensibility of

those parts to stimulation by cold was slightly reduced, but other stimuli produced a normal effect. At no time was there any disturbance of sensibility of any kind except the paresthesia mentioned; nor was there any purely motor disturbance. The plan-

Fig. 5.

tar and corneal and other superficial reflexes were normal. The deep reflexes of the extremities were exaggerated. The cranial nerves, except the optic, were normal. There was no ataxia of the extremities, no asynergy, no adiadokokinesis. The pain was rarely felt in the back of the neck. He could not locate it at all sometimes. It was most frequently stated to be on the top of the head. Once, when very severe, it was felt "in front on the right." His pulse was generally about normal; once, late in the disease, after a great exertion, it sank to 52.

In March, 1906, he could not remain upright any more. His eyesight was now much reduced. The earthquake of 1906 separated us. We did not see him alive again, but observing the notice of his death in the newspapers one day in October, 1906, we sought, and obtained, permission for an autopsy.

As in the preceding case, when the contents of the skull were removed no tumor was visible or palpable until by lifting the cut end of the medulla oblongata one was exposed in the fourth ventricle. A section through the corpora quadrigemina and decussation of the superior cerebellar peduncles shows the tip of the tumor lying free in the dilated aqueduct of Sylvius. One farther down through the posterior corpora quadrigemina, where the superior cerebellar peduncles just meet at the median line of the pons, shows the tumor projecting from the left side of the ventricle by a broad pedicle. (Fig. 3.) At the insertion of the pedicle the gray matter normally lining the ventricle has for the most part disappeared, and here also the root of the fourth nerve is much reduced in size while its fellow on the opposite side is undiminished. The tumor grows rapidly and has almost doubled in size before we lose sight of the posterior corpora quadrigemina on our progress caudalwards. As it grows the surface by which it projects from the side of the ventricle becomes more extensive; near the middle of the pons it is continuous with all the left side of the enormously dilated ventricle and with more than half of its floor and roof. In the upper pons the nasal root of the trigeminus can be distinguished on the side of the tumor as well as on the other. The misshapen, compressed left superior cerebellar peduncle is in intimate contact with the tumor, and the corresponding lateral fillet cannot be clearly discerned at its side. The right superior cerebellar peduncle also shows the effect of tension by its elongated and slender shape. The central gray matter has been entirely replaced by the tumor, and also on the side opposite to the tumor it is very much diminished. Of the nasal root of the trigeminus nothing is to be seen in many sections preceding the middle level of the pons. A glance at the illustrations (Figures 4 and 5) will show the effects of the growth.

Near the caudal end of the pons the tumor almost fills the ventricle, leaving only a narrow space along the right side. The tumor is bounded here laterally by the corpora dentata of the cerebellum. It forces its way between the cerebellum and the restiform bodies of the medulla oblongata. A section through the medulla shows signs of slight compression. The growth encroaches upon the substance of the medulla on the right and the left, chiefly at points corresponding to the restiform bodies. The epithelial lining of the floor of the ventricle is preserved at the median line and for a short distance on either side of it. The tumor may still be seen in the ventricle in sections just above the lower pole of the olivary body.

In the cerebellum where the tumor has attained its greatest size, measuring 4 cm. in its lateral and 3¾ cm. in its dorso-ventral diameter, it occupies the whole of the vermis with the exception of about half a centimeter of cerebellar substance covering its dorsal surface; it emerges on the ventral surface of the cerebellum. (Fig. 6.) The dentate bodies have been pushed apart, and the tumor occupies almost the whole space between them. The right dentate nucleus is stretched and its dentations are flattened so that it has lost the form of a sack. The left dentate body is intact. A series of vertico-transverse sections show the gradual diminution of the tumor as we recede towards the posterior border of the

Fig. 6.

cerebellum. Just before the dentate bodies disappear the growth still occupies most of the inferior vermis. It thereafter withdraws more and more into the dorsal part of the inferior vermis, becoming smaller, until we finally find the posterior part of the inferior as well as the superior vermis normal. The tumor is a round-celled sarcoma.

In both of these cases there was a first stage in which the sole symptoms were vomiting and a sense of giddiness. A second stage was marked by the supervention of the general symptoms of brain tumor, that is, the headache and the choked disc, and of the special symptoms of a cerebellar affection, that is, the disturbance of balance. In the first stage one would hesitate to infer a tumor in the absence of headache and choked disc; in the second, a cerebellar tumor would be confidently diag-

nosed, but if ignorant of the order of events one would be likely to err in respect of its origin and extent, and hence in respect of its operability.

It seems justified to assume that the first stage coincides with the development of the growth within the fourth ventricle, and the second with its invasion of the vermis of the cerebellum. In the case of L. Z. his friends in their despair urged an operation, but his death immediately after entering the hospital frustrated it. In the case of R. W. the diagnosis was precisely stated as "a tumor in the fourth ventricle and middle lobe of the cerebellum," and a decompressive operation mentioned as a means of palliation; but this was rejected.

We are under obligations to Dr. D'Arcy Power, of the San Francisco Polyclinic, for his kindness in photographing the sections.

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## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

### *Professor Koch and the Elucidation of Tropical Disease.*

The last years of Professor Robert Koch's life were almost entirely given up to the study of tropical disease. His work in South Africa on diseases of animals and his numerous expeditions to East Africa to investigate malaria, sleeping sickness, tick fever, plague and other tropical scourges were attended by great hardship and unremitting toil. The writer had the privilege of conferring with Professor Koch regarding some of the problems presented by disease in Africa and was deeply impressed by his great ideas and untiring devotion to this cause. Tropical medicine no less than bacteriology claimed the interest and genius of Robert Koch.

### *Human Plague Again.*

The occurrence of another case of human plague in California emphasizes the continued danger which inheres in persistent rodent plague among us. It is to be hoped that the federal government will not relax its admirable work in our midst, and that the State and profession of California will continue every effort to protect our citizens from a possible epidemic of this disease.

### *Tropical Medicine at Vallejo.*

The last meeting of the Northern California Medical Society, held at Vallejo, was the occasion of an enthusiastic symposium on tropical medicine. Dr. C. J. Geiger, of the Navy, read a paper on Gangosa, a new and formidable tropical disease which has appeared among us. Dr. H. R. Oliver, of San Francisco, presented a paper on hookworm in California, and Dr. Herbert Gunn, of San Francisco, and the writer each gave general addresses on some of the tropical diseases of this State. The discussion of these papers and addresses, which was opened by Dr. Simons, of the Navy, was of great interest and well showed the interest and intelligent attitude of California physicians toward these important questions. To the writer nothing is more gratifying than the point of view expressed by the best medical men of this State when talking and writing on tropical disease and its significance in our midst.

### *Beri-Beri in the United States.*

Several recent articles on this subject show that the disease named is much more widely spread throughout temperate America than is commonly supposed. The yearly deaths from beri-beri in California indicate that there are always several hundred cases in the State. The large part of these are probably Japanese. Recently Fraser (New York Medical Journal, April 30, 1910) has published some interesting work on the aetiology of the disease done by him in the Philippines. According to him the cause seems to be connected with the eating of improperly prepared rice, which opinion is a confirmation of the most popular of the older etiological theories. It is very desirable that physicians in this State report all cases occurring in their practice.

### *The American Society of Tropical Medicine.*

This society held a most important meeting at the Medical Department of the University of St. Louis, on May 11. Colonel Wm. C. Gorgas presided and the papers read were of exceptional value. The American Society of Tropical Medicine, which was organized by a few far-seeing men at a time when tropical medicine was regarded by many as an academical hobby, has grown to be one of the most useful scientific societies in the United States, and as it enters its era of great prosperity and growth we repeat our good wishes which we expressed at its inception, and add that our hopes for it have been fulfilled, but that our expectations regarding its future influence have widened and we wish the society all success in meeting them.

### *The Concealment of Lepers.*

The writer was called to Pleasanton, California, a few weeks ago and while there confirmed the diagnosis of leprosy made by the family physician and the local health officer in the case of two boys who are now in the Alameda County Infirmary. One of these boys was in the early stages of the disease and had not been considered ill, and in fact attended public school until a short time ago. The other boy was a case of years' standing and had been concealed for a long time by his parents, who had evidently recognized the nature of the malady.

### *Another Menace to California.*

The writer announced at the Sacramento meeting the existence of hookworm infection in mines in this State, a fact discovered by Dr. Sprague of Jackson

and first brought to the writer's attention by Dr. Herbert Gunn of San Francisco. An interview with Dr. Sprague at Sacramento left no doubt in our minds regarding the matter. When we think of the 14,000 cases of this disease among the Westphalian miners a few years ago and the terrible loss of life and time among the Alpine underground workers, some of the possibilities that may confront us are rendered vivid. Another interesting fact in connection with hookworm in California is a case of the infection originating in the State and reported to the writer by Dr. Lucas of Santa Maria, California. The patient is a rancher who has never been out of three counties in this State. The case settles the question as to whether hookworm is endemic or not in California. It is.

*The Technique of Examining Stools for Hookworm Eggs.*

The writer has had dozens of inquiries recently concerning his method of hookworm diagnosis. The principle involved was first employed independently by the writer and by Dr. Bass of New Orleans, Dr. Bass being the first to publish his results. Our own method is to use two solutions of sodium acetate of specific gravities of 1050 and 1250 respectively. A portion of suspected fæces is mixed with one of these solutions and centrifuged for about ten seconds, the liquid decanted, then the other solution is poured on and mixed gently, the whole again centrifuged, and this process repeated until the eggs are all in one layer, the sand and other heavy ingredients of the fæces remaining below and the light flocculent components lying above the zone in which the eggs remain. With this technique one slide contains as many ova as fifty or a hundred slides by the ordinary method. Dr. Bass uses calcium chloride for his solutions, but the writer has not been able to employ this salt satisfactorily on account of its hygroscopic properties.

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## LANE MEDICAL LECTURES FOR 1910.

The Directors of Cooper Medical College have the honor to announce that the Lane Medical Lectures for 1910 will be given by Reginald Heber Fitz, M. D., LL. D., Hersey Professor of the Theory and Practice of Medicine, Harvard University. The course will consist of six lectures, entitled, "A Consideration of Some Features of the Lymphatic System," including the discovery of the Lymphatics and the recognition of their importance, Status Lymphaticus and Thymus Hyperplasia, Lymphangiectasis and Lymphangioma, Pseudoleucæmia, Hodgkins' Disease and Lymphosarcoma.

The lectures will be given in Lane Hall, corner Sacramento and Webster streets, San Francisco, at 8:30 p. m. on September 12th, 13th, 15th, 16th, 19th and 20th. These lectures are intended for the medical profession, and all members thereof are respectfully invited to attend.

## CASE REPORTS.

By H. C. MOFFITT, M. D.

September 21, 1908, a woman of 28 was brought to the University Hospital She is a widow with two children, and had been working for twelve hours a day making shirts. For eight or nine years she had noticed discharge from the right ear, but it never bothered her About September 1st the patient had severe pain in the right ear, and put hot oil in it by advice of a neighbor. An "abscess" broke next day, and the patient had a sudden chill followed by fever. The pain disappeared. Vomiting and diarrhea lasted two days. The patient grew weak, sweated profusely, and had five or six chills. September 16th she grew short of breath, and had pain in the left side of the chest. On entrance she looked septic; there were no pupillary changes or nystagmus. There were numerous petechiae over the trunk, arms and abdomen. There was a patch of bronchopneumonia in the right lower lobe. The spleen was large, the heart dilated. The right mastoid region was swollen and tender, and there was swelling and tenderness along the upper portion of the right sterno-mastoid muscle. A diagnosis of acute mastoiditis, sinus thrombosis, and general sepsis was made in the medical ward, and operation advised. The fundus was at this time normal. A blood count showed 22,400 leukocytes with 85 per cent polynuclears. On September 23rd Dr. McKee operated. The following description is from his notes:

"Usual incision for radical operation. Upon opening cortex, pus under pressure exuded. No large cells. Posterior osseous wall of meatus removed down to facial ridge. Carious ossicles removed, middle ear and mastoid cavity thrown into one. Removing discolored bone opened a large abscess on the sinus filled with foul pus under great pressure. Sinus laid bare for nearly 2 cm. The wall yellowish, and sinus collapsed, but seemed to fill after removing pressure. Sinus incised, and copious bleeding from both directions with probe; no clot discovered."

The next day leukocytes dropped to 8,400 with 77 per cent polynuclears. Decided twitching of the right facial muscles was noted; this persisted subsequently. The patient did well for two days, but then began to be restless and dull. Leukocytes rose to 21,000 with 92 per cent polynuclears. A blood culture during this period was negative. The patellar reflexes were decreased. Both retinae were edematous, the right retina decidedly more than the left. September 28th there was complaint of slight soreness in the back of the neck, but next day this had disappeared, and patient said she felt well. The wound was clean. A small amount of fluid was withdrawn from the right pleura, and found to contain both squamous and small mononuclear cells. The condition became worse from the 29th to October 3rd, and it became apparent that the patient had both meningitis and a cerebral abscess, which was located in the right temporal lobe. Leukocytes varied from 10,800 to 21,600. There was occasional nausea. The patient was unable to concentrate her attention on questions asked her, and she was irritable and restless. The right pupil was slightly larger than the left. There was a distinct neuroretinitis more marked in the right eye. The abdominal reflexes were absent, knee jerks much increased. There was marked spasticity of the lower extremities, and a decided Kernig. On the evening of October 2nd, there was a general convulsion with unconsciousness. The head and eyes were turned

to the left. A spinal puncture on October 3rd gave turbid fluid under pressure with 95% polynuclear cells and streptococci in the stained smear. Cultures by Dr. Lartigau confirmed the presence of streptococci.

On October 3rd Dr. McKee exposed the sinus more freely and opened widely. The jugular vein was ligated by Dr. Russ, and the sinus curetted, and septic clot removed from direction of the bulb. There was a moderate flow of blood from the torcular end.

October 4th the patient was depressed, but did not complain of pain. The neck was not rigid. The right pupil was now smaller than the left. The optic neuritis had increased particularly in the right eye. The lower extremities were rigid. Kernig was more marked on the right, although the left knee and ankle jerks were livelier; Babinski and Oppenheim were absent.

On October 5th the patient's general condition was worse, though the signs had not greatly changed, and 40 cc. of turbid fluid was removed by lumbar puncture, and streptococci demonstrated by smear and culture. Twenty cc. of antistreptococcic serum were injected slowly into the spinal canal before withdrawing the needle. At 5:30 p. m. Dr. McKee operated, carrying his original incision upward. A ¾-inch button was removed, 1½-inch above and ¼ to ½-inch posterior to the center of the meatus. The opening was enlarged downward to the level of the floor of the fossa. The dura bulged distinctly, and puncture with a trocar showed pus under pressure. On dilating with forceps, 1½ to 2 ounces of foul pus of dark color was evacuated. On lifting the brain a small amount of pus with a few bubbles of gas escaped. The incision over the sinus was carried backward, and the sinus was split open. It was filled with bright, non-odorous clot. The bulbar portion was gangrenous. The sinus was packed, and a cigarette drain put in the abscess cavity. A blood culture taken October 5th was negative.

The day following the operation the rigidity of the lower extremities was less marked, but Kernig persisted on the left. On October 7th and 8th the patient was much more rational, and Kernig was less marked. The leukocytes still remained 14,800 with 80% polynuclears.

On October 9th there was headache and nausea and some stupor. Twenty cc. of turbid fluid was removed by lumbar puncture, and 20 cc. of antistreptococcic serum introduced into the canal immediately afterward. Dr. McKee found pus below the site of drainage, near the floor of the fossa. A probe passed well forward toward the apex of the temporal lobe.

Smears from this spinal fluid showed disintegrated leukocytes, and cultures remained sterile.

From this time on the patient steadily improved. A serum rash appeared October 14th, nine days after the first intraspinal injection. The Kernig persisted in both legs until October 15th. The optic neuritis increased for some days after drainage of the abscess, especially in the right eye, as has been noted in other cases. By November 15th it had completely disappeared. The patient remained rather foolish and silly for two or three weeks, but this has disappeared. The leukocytes fell gradually to normal.

Man of 27, single, an iron moulder by occupation, and has worked hard for ten years. His family history is negative. He was never seriously ill, and denies any venereal infection. He has used alcohol and tobacco to excess. In November, 1907, while in the shop pouring off molten metal, the patient had suddenly a peculiar sensation as if his eyes were being forced out of his head. This was accompanied by dizziness. These sensations persisted, and were associated with roaring in the ears, and a feeling of great pressure within the skull. Vision was seriously impaired from the first. On rising suddenly or tilting the head back, he would become totally blind. The sight in the right eye steadily declined, and failed entirely in July of this year. Vision in the left is seriously impaired, and transient amaurosis follows sudden movement of the head or pressure on the front of the neck. Soon after the head symptoms in November, 1907, he began to suffer from pain in the thorax, chiefly to the right of the upper sternum, and underneath the right scapula. The pain was most often dull and aching, but at times sharp and severe. After some weeks it extended across the upper chest, and frequently radiated upward to the jaws and into the back of the neck and occiput. There has been from the first a feeling of great pressure through the frontal region of the skull and back of the eyes with aching in the jaws and teeth. The head sensations are always better when he is lying down, and the thorax pain has been relieved by treatment in hospital.

Attempts to walk had soon to be abandoned, as he became faint, dizzy, staggered, began to twitch, and frequently fell. In March, this year, he suddenly became hoarse, and had some dysphagia. The hoarseness has persisted, and he occasionally still has difficulty in swallowing when the head is thrown back. In September he began to have a harsh, brassy cough, but this only lasted a month.

In October, through the kindness of Dr. Shiels, he came under my observation at the University Hospital. At first it seemed probable that there were separate lesions in head and thorax, but this view has been abandoned. No cranial nerves, but the optic are involved. The following account of the peculiar phenomena observed in the eye grounds is from notes of Dr. Nagel:

The right eye shows optic atrophy with rather indistinct outline, but the appearance of the vessels does not point to a distinct neuritis preceding. There are degenerative retinal changes close to the disc toward the macula and upwards, and since analogous, though more recent changes in the left eye are also confined near the posterior pole, the process in the right eye may be perhaps looked upon as a secondary ascending atrophy of the nerve.

In the main branch of the inferior temporal vein in the right eye, a slow interrupted stream is observable, the blood column being divided into segments. A few days later many veins showed the same broken corpuscular columns moving forward in a slow and jerky way. After a month in hospital, no further interruption of the blood column was observed, though the veins presented frequently a granular appearance. There was occasionally decided pulsation in the veins. Both arteries and veins have become smaller, and the atrophy of both discs has distinctly progressed.

At present there is a little vision remaining in the left eye. If the patient sits up suddenly or if he tilts the head suddenly backward, or if pressure is made over the carotids, he immediately becomes blind for a few moments. If pressure be made over one carotid, he becomes dizzy but not blind. If both carotids be compressed while the patient is sitting, after ten to thirty seconds respiration becomes deep, slow and noisy: his cyanosis gives way to pallor, respiration ceases, and twitching of the face and extremities begins. Unconsciousness supervenes, he falls backward, and remains senseless for one-half to a full minute, awakening with a dazed, frightened look. These attacks are undoubtedly due to cerebral anemia, and it seems fair to ascribe the disturbances of vision and the fundus phenomena to the same cause.

No pulsation has ever been felt in the cartoids, subclavian or radials. On entrance a faint pulsation was felt in the ulnars and brachials. Pulsation in the abdominal aorta, femorals and foot arteries is normal. The blood pressure measured in the right leg was 220 systolic, 160 diastolic on entrance, but has fallen gradually to 150 and 125. The left vocal cord is paralyzed. The blood and urine examinations are negative.

The duration of the process and the vascular phenomena speak for aneurism rather than mediastinal tumor. On entrance there was ulceration of the nasal septum and of the lower turbinate in the right nostril, and perforation of the septum has since occurred. The ulceration has healed under specific treatment, and must be regarded as a stigma of lues, despite the negative history.

## A CASE OF POISONING BY SUBNITRATE OF BISMUTH.*

By GEORGE B. SOMERS, M. D., San Francisco.

Subnitrate of bismuth is considered so safe and harmless a remedy, that one hesitates to cast any reflection on its fair reputation. I believe, however, that an accident which recently came under my observation will show that the drug may not be used with absolute impunity and that toxic symptoms may follow its careless administration.

Mrs. C., age 26, married two years, never pregnant, complains of pain in the pit of the stomach, nausea and general malaise. Has had measles and mumps but no other severe sickness; her present weight is less than one hundred pounds, she is poorly developed, emaciated, pale. Sleeps poorly, poor appetite and habitually constipated.

F. H. Mother died of malaria; father alive and well; one brother alive and well. One brother died of tuberculosis, one sister of dropsy, two sisters died in infancy.

P. I. About four months ago she was taken during the night, with severe pain in the right lower chest, in the morning she felt better but a day or so later the pain returned this time situated in the epigastrium. The pain recurred at intervals during several weeks, her appetite became poor, she vomited considerably, the vomitus consisting mostly of greenish fluid. The nature of this sickness was not learned. During this time she was treated for the pain with hypodermics of morphin, which were given two or three times a day over a period of eleven weeks. She took no morphin herself. All that she received was given to her by her attendant.

At this time her physician asked me to see her on the supposition that she was suffering from some pelvic disease. An examination was negative as regards discovering any definite abdominal or pelvic trouble, but the addiction to morphin was so evident that I advised her immediate removal to the hospital with the idea of first overcoming the craving before attempting any diagnosis of her abdominal trouble. She was placed on a course of treatment for morphin habit suggested by Lambert in the Journal of the American Medical Association, September 25th, 1909.

This treatment was carried out for four days and was successful in overcoming the desire for the drug. She was then put on tonics and a liberal diet and by the end of a week from the beginning of the treatment she was very much improved in every way. From October 3rd to October 13th she seemed to be doing well except for some looseness of the bowels which was considered an after symptom of the morphin habit. She had from two to four watery movements a day and it was noticed that the number of passages in 24 hours gradually increased. October 12th she had five movements, October 13th six, October 14th she was ordered 20 grains of subnitrate of bismuth daily, given in 5 grain doses. This was continued three days. As the symptoms did not abate she was ordered 40 grains daily, in 10-grain powders given 4 hours apart. After this order the patient was left in charge of an interne and I did not see her again until the morning of the fifth day. On making inquiry about her condition I found that the bismuth had been given steadily during my absence, the total amount (including the first course of 20 grains daily) amounted to 240 grains spread over an interval of seven days.

The patient was in much distress, she was able to swallow only with great difficulty, her gums were swollen, sore and presented a dark bluish discoloration. Under the tongue were several ulcers. The tongue itself was red and swollen and presented several sores along its edges, a number of aphthae were scattered over the soft palate, pharynx and inner surface of the cheeks and the general appearance of the mucous membrane of the mouth was dusky. The diarrhoea instead of diminishing seemed worse. She refused nourishment and altogether was quite sick.

The bismuth was at once stopped, a dose of castor oil given and a mouth wash prescribed. She immediately began to improve and at present, about three weeks after the last dose of bismuth, shows little or no evidence of the mouth symptoms. No positive diagnosis has yet been made as to her abdominal trouble but it may be said that a Moro given a few days ago gave a positive reaction.

The question arises at once as to whether we can justly attribute the mouth symptoms in this case to the bismuth. I can only reply that the patient received a great deal more bismuth than I am in the habit of prescribing or than I intended to prescribe in this particular case, and secondly, the symptoms that she presented correspond definitely to the symptoms observed by others in cases of bismuth poisoning. It is quite possible that the patient either presents an idiosyncrasy to bismuth or that her physical condition rendered her more susceptible. I have not seen any cases of bismuth poisoning reported where the drug has been given by mouth. A number of cases, however, have been reported where bismuth has been applied to raw surfaces. In 1882 Kocher called attention to the danger of poisoning where bismuth is applied to wounds and in the October number of the Illinois Medical Journal five cases of poisoning following the injection of bismuth paste in tuberculous sinuses are reported, three of them with fatal results. The symptoms in general were characterized by ulcerative stomatitis, black pigmentation of the gums and mucous membranes of the mouth associated with enteritis and nephritis.

### Discussion.

Dr. Jule B. Frankenheimer: Though I have not seen any cases of bismuth subnitrate poisoning I have noticed in the recent literature a number of cases of acute poisoning reported. The symptoms were those of a severe collapse with diarrhoea. The patients were all given large quantities of the drug for X-ray purposes. The symptoms were ascribed to a splitting up of the nitrates into nitrites.

Dr. Sol Hyman: It would be interesting to know just what kind of subnitrates of bismuth Dr. Somers employed; because Baer working with this drug in surgical tuberculosis in two different hospitals found that in one hospital his results from this drug were good and in another hospital his results from use of the same drug were uniformly poor. He found that in the hospital where the results had been poor that the subnitrate of bismuth contained lead as an impurity. As the cases reported bear a striking resemblance to acute lead poisoning it would be worth while to know whether a pure form of bismuth subnitrate has been used.

* Read before the Cooper College Science Club.

Dr. Henry Gibbons, Jr.: This paper is a great surprise to me because I had not appreciated that subnitrate of bismuth is poisonous. I have used it very largely and have never found any poisonous properties. It was the best remedy that we had for diarrhoea in the War of the Rebellion and I remember one colleague who gave ½ oz. of the carbonate at a dose, and I have rarely given less than 20 grains. Recently I had a case of diarrhoea in which I gave that quantity and the passages were perfectly black for ten days without any bad effects being experienced. I could not avoid the impression as Dr. Somers read his paper that there were some impurities in the subnitrate; that there was lead present or some other source of contamination.

Dr. George B. Somers, closing discussion: I have not taken pains to find out whether this subnitrate of bismuth was perfectly pure. According to those who have made a deeper study of the subject they seem to think that the purity of the drug plays very little part in the production of the symptoms. There was one point raised in reference to the variety of the symptoms. The poisoning may take one or two forms; one where the symptoms are mostly in the mouth, characterized particularly by the bluish line, this form is supposed to be due to absorption of the metallic bismuth. The other form such as Dr. Frankenheimer mentioned is due to the splitting up of the subnitrate into nitrites and shows mostly bowel symptoms owing to the irritating properties of the nitrite upon the intestines. We do not know why some cases are poisoned and others are not. At the time that Kocher called attention to poisoning by the use of subnitrate in fresh wounds he said that the insoluble bismuth subnitrate was converted into the soluble albuminous nitrate when dusted on raw surfaces. From the case that I have reported and from the large number recently reported in the journals one feels justified in offering a word of caution to the indiscriminate use of subnitrate of bismuth.

## AN UNUSUAL CASE OF STRANGULATED HERNIA.

By ROBERT B. DEMPSEY, M. D., Vallejo.

In presenting this paper to the medical profession, the writer is offering no new suggestions on the surgical treatment of hernia, but merely directing attention to a condition brought about by what in this age of clean-cut and aseptic surgery must be considered little less than a crime against the innocent and unsuspecting victim.

I was visited one evening by a man who complained of intense pain in the left inguinal region and an examination revealed a large mass, very tender to touch, indurated and inflamed. Constipation was absolute, not even flatus passing, abdomen much distended, face hippocratic, pulse small and tension low, subnormal temperature and moist skin. In fact many of the symptoms of shock.

He informed me he had hernia since a child but had been cured some years ago by Dr. A. (who has recently had his license revoked for unprofessional conduct) by injections of a clear substance in solution, probably zinc chloride, into region of both rings and at various other places in the inguinal region.

It was plain at a glance that he had strangulated hernia, and as taxis failed to reduce it, I arranged to operate next morning. With the assistance of Doctors Fry and Bond the regular Bassini incision was made through the skin revealing a sausage-shaped tumor composed of the pampiniform plexus, vas, a loop of intestine, and hernial sac, all matted together by dense fibrous adhesions and grown solidly to the pillars of the internal ring. Within the abdominal cavity were numerous adhesions binding the intestines into a mass and firmly adherent to the peritoneum. The intense inflammations produced by the injections had caused the entire disappearance of the muscular fibres of the external oblique for quite a distance from the canal, leaving in its place a fibrous membrane, probably the sheath of the muscle, so thin as to be transparent, and loosely adherent to the skin, the fatty layer having disappeared as had the muscular fibres.

The conjoined tendon of internal oblique and transversalis had numerous areas of heavy scar tissue distributed throughout its substance, and the only structure not affected was Poupart's ligament.

The cord was composed of vas, remains of numerous veins and arteries all occluded, and imbedded in a mass of fibrous tissue about three inches long and two inches thick, and within this mass was a knuckle of compressed intestine, causing the obstruction.

As the patient went to operation almost in a condition of shock and had stercoraceous vomiting while upon the operating table, little was done but to dig out and separate the knuckle of intestine, which required nearly two hours, remove some of the veins of cord and return the same to the abdomen, suturing the remains of conjoined tendon of internal oblique and transversalis over the cord, as in Fowler's operation, there being not sufficient left to form a floor for a new canal. The remains of the aponeurosis of external oblique were sutured to Poupart's ligament and the skin closed with a subcuticular stitch.

The history of the following month was that of an ordinary hernia. At present the abdominal wall is firm and if structures covering cord are sufficiently firm, hernia will probably not recur, as the intestines are firmly adherent to abdominal wall and cannot descend.

As it was, we did the best with the material at hand but how much better had this man had a radical operation when all the structures were normal, than to suffer for years and nearly lose his life as the result of a procedure which should never be mentioned except to be condemned.

It seems that the injection method is still being used quite extensively, and though it may be safe in skillful and competent hands, the radical operation not only offers by far the best chance of cure but is free from the dangers of strangulation by inflammatory bands as in this case.

## DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

### Ampoules.

The preparation of sterilized solutions in glass tubes or "Ampoules" originated in Limousin, who in 1886 made bulbs out of glass tubing, drew up into them heated solutions of medicinal substances and sealed the tubes in an oxyhydrogen flame.

This method of procedure, however, failed to yield satisfactory results owing to the development of bacteria and decomposition products, due to faulty sterilization and improper handling.

In the method now employed the cold solution is accurately measured into the tubes or bulbs, the glass is sealed immediately and the whole subjected to the sterilizing process.

The Jena glass, usually employed in the manufacture of the bulbs, is thoroughly cleansed and rinsed with distilled water, then dried and melted into shape.

The solutions are carefully filtered and the tubes filled by means of a pipette, in an atmosphere as free as possible from dust. The process of ster-

ilization varies according to the nature of the chemicals employed.

The mercury compounds, which bear heat well, are sterilized in an auto clave at a temperature of 120° to 125° C. Other products are sterilized in steam at the boiling temperature of water—100° C., and the less stable alkaloids and other compounds are sterilized at a lower temperature. Cultures are frequently taken to determine the complete sterilization of the product.

The real problem confronting the chemist in the preparation of ampoules is to so prepare the chemicals and solutions as to eliminate as far as possible the irritating properties of the drug. To attain this end the solution must be made as nearly isotonic with the tissue fluids as possible. The mercury preparations are especially liable to give rise to pain and nodulation and much effort has been expended on this class of preparations.

In the early literature on the injection method of drug administration is a paper by Bareggi, entitled, "Harmlessness and Curative Efficiency of Deep Injections of Quinine in the Gluteal Region." This appeared in 1886, and in the same year Schivardi published a monograph entitled, "Deep Intramuscular Injections of Mercury Chlorides, Sodium Iodide and Quinine Chloride."

In France, Italy and Germany this method of drug administration has come into extensive use, and in the United States it is growing in popularity.

In certain acute conditions, in malarias and syphilis, where immediate effects are desired, and in cases where internal medication gives rise to gastric and other disturbances, the injection method proves a valuable aid to the physician. Aside from this, the patient is more directly under the physician's supervision and control, and the psychical factor in the administration of the remedy is worthy of consideration.

The medicament may be injected under the skin, into the muscle or directly into the vein. When injected intravenously, the material should be in perfect solution.

The skin should be thoroughly cleansed and alcohol or other antiseptic applied before the injection is made. The syringe and needle should be sterilized for each injection. The platinum-iridium needle is to be preferred for this purpose as it is stronger and not so easily blunted as the ordinary needle. A blunt needle causes pain. For intramuscular injections use a long needle (1½ inches) and thrust deep into the upper gluteal region with a quick stab. Inject contents of syringe very slowly.

Massage the part for several moments immediately after the injection, using a pledget of cotton moistened with alcohol, or apply a hot cloth over the injected area, massaging the part through the cloth. This will facilitate absorption and reduce liability to pain and tissue changes.

In naming a few of the preparations put up in Ampoules attention is called to the fact that various manufacturers put out products in strengths and quantities differing from these named. The physician should take care to observe the strength and nature of the preparation he administers.

Mercury Cacodylate (Mercacodol). Ampoules contain 1 cc. = 0.008 gm. (⅛ grain) Mercury as metal, in aqueous solution. Indicated in syphilis and tuberculosis. Given in from two to four injections weekly. Also dispensed in one ounce vials.

Mercury Benzoate. Ampoules contain 1 cc. = 0.008 gm. (⅛ grain) Mercury as metal, in aqueous solution. For intramuscular injection in syphilis. Given in from two to four injections weekly.

Mercury Sozo-Iodolate. Ampoules contain 1 cc. =0.005 gm. (1-12 grain) Mercury as metal, in aqueous solution. For intramuscular injection in syphilis. Given in from two to four injections weekly.

Mercury Salicylate. Ampoules contain ½ cc. = 0.065 gm. (1 grain) Mercury as metal in an insoluble form, suspended in oil. For intramuscular injection in syphilis. Is absorbed more slowly than aqueous solutions and given less frequently—four to ten days apart.

"Gray Oil." Ampoules contain ½ cc. = 0.130 gm. (2 grains) metallic Mercury in an insoluble form, suspended in oil. For intramuscular injection in syphilis. Absorbed more slowly than aqueous solutions and given four to ten days apart.

Sodium Cacodylate. Ampoules contain 1 cc.= 0.05 gm. (10-13 grain) Arsenic in organic combination. Indications: Neurasthenia, hysteria, tuberculosis, anemia, chlorosis, paludism.

Iron Cacodylate. Ampoules contain 1 cc. = 0.03 gm. (½ grain) Iron and Arsenic in organic combination. Indications as under Sodium Cacodylate plus the iron.

Quinine and Urea Double Chloride. Ampoules contain 1 cc. = 0.03 gm. (5 grains). Indicated in malarias to secure rapid Quinine effects.

Atoxyl Acetyl Derivative (Arsacetin). Ampoules contain 2 cc. = 0.20 gm. (3 grains). 10% solution. Contains half the quantity of Arsenic of plain Atoxyl. Indications: Tuberculosis, anemias, syphilis, sleeping-sickness, skin diseases.

"Neurasthenia Compound." Ampoules contain 1 cc. = 0.10 gm. (1½ grains) Sodium Glycerophosphate, and ½mgm. (1.130 grain) Cacodylate of Strychnin. Indicated in neurasthenia and other nervous and wasting diseases.

Strophanthin. Ampoules contain 1 cc. = 0.001 gm. (1-65 grain). A powerful heart and kidney stimulant. Indications: General anasarca, failing of the heart in acute diseases as pneumonia, etc. Best injected intravenously.

Camphorated Oil. Ampoules contain 2 cc. = 0.20 gm. (3 grains) Camphor in oil. 10% solution. To stimulate heart in collapse, after operations, etc.

Caffeine (in Sodium Benzoate). Ampoules contain 1 cc. = 0.20 gm. (3 grains) Caffein alkaloid. Heart and kidney stimulant.

Cocain. Ampoules contain 2 cc. =0.04 gm. (2-3 grain) Cocain Hydrochloride. Local anesthetic.

Ergot. Ampoules contain 1 cc. = 2 gms. (30 grains) Ergot in the active principle. To secure rapid effects in obstetrical and gynecological work.

## CONCERNING OSTEOPATHY.

To the Honorable Board of Supervisors of Los Angeles County, Los Angeles, Calif.

Gentlemen: The Los Angeles County Medical Association is made up of a majority of the ethical and well-known physicians, surgeons and specialists of the county.

The Board of Councilors of this Association has instructed us to register with you its protest against the granting of the request of the Osteopathic Colleges to have attending staffs at the Los Angeles County Hospital, and gives as reasons for such protest the following facts:

1. That the physical welfare of the great majority of the patients at the County Hospital would be undoubtedly imperiled were such osteopathic staffs allowed in the institution.

2. The general management, discipline and order in the institution would be undoubtedly impaired.

3. The present attending staff, made up of many of the prominent physicians and surgeons and specialists of the community, would probably be tempted to withdraw their very valuable services from the institution.

4. The good will of the mass of the educated medical profession of this country would be probably withdrawn from the County Hospital and the majority of the citizens of the county would likewise feel the same way.

5. It would be almost impossible to secure an adequate number of well educated internes.

6. The lowered tone of the Nurses' Training School would make it difficult to secure young women to enter the County Hospital Training School for Nurses.

7. And last but not least, it may be permissible to call your attention to the fact that these two osteopathic colleges are largely run for private profit;

8. And that their educational standards are those which were discarded by medical schools years ago as being too low for a profession dealing with so responsible and sacred a matter as life and death;

9. And that, according to the law of California, it was intended that practitioners of osteopathy should only be allowed to practice those manipulative procedures peculiar to their sect, but that they have gradually and without warrant of the law, assumed to be practitioners of medicine and surgery also, in defiance of the conditions under which they were given initial privileges to practice their peculiar methods;

10. And that because of their low educational standards and narrow and unscientific viewpoint of disease;

11. And because they have not kept faith with the statements which they made to the Legislature when they, several years ago, applied for State recognition through a special osteopathic board of examiners;

12. That therefore, the great mass of the medical profession look upon them with such distrust that consultation with them is refused, and that they are not classed as yet as a legitimate part of the medical profession.

For the above reasons, the Board of Councilors of the Los Angeles County Medical Association feels it to be its duty to the Los Angeles County Hospital and to its patients, and to the public health interests of the community, to object to the introduction of osteopathic staffs at the Los Angeles County Hospital at this time.

Respectfully submitted.

ANDREW STEWART LOBINGIER, M. D.,
CHARLES B. NICHOLS, M. D.,
DUDLEY FULTON, M. D.,
GEORGE H. KRESS, M. D.,
Committee.

## ALAMEDA COUNTY MEDICAL SOCIETY.

### A Case of Adiposis Dolorosa.

By EDWARD VON ADELUNG, B. S., M. D., Oakland, Cal.

In 1888, F. X. Dercum announced a new syndrome characterized by irregular symmetrical deposits of fatty masses in various localities on the body, accompanied by pain. The disease was given the name, therefore, of Adiposis Dolorosa.

It occurs most frequently in women between the ages of forty and sixty years. Usually the patient notices first the enlargement of some part of the body such as the ankles, arms, shoulders or trunk, due to nodules of fat, which usually grow to larger masses, although they sometimes disappear, to recur later. At the same time nervous symptoms occur, such as a sense of cold in the part, dull, aching pain or marked tenderness or neuralgic pain and other paraesthesias. The swellings do not pit on pressure and in some patients are very sensitive to pressure, especially on the arms and legs. At first these masses are circumscribed, but later are more diffuse and ultimately are found as pendulous masses of fat, veritable folds of adipose tissue. Unlike obesity, the hands, feet and face are unaffected. The contrast between the feet and the legs or between the hands and arm is often striking.

The skin remains white and pliable, the mass on palpation giving often the impression of a bag of worms similar to varicocele but more resistant.

Adiposis Dolorosa.

On account of the large increase in weight as well as the development of muscular weakness, locomotion becomes more or less difficult. Among occasional symptoms observed in this disease are loss of knee-jerks and other deep reflexes, contraction of the visual fields, dyspnoea, epistaxis, headache, herpes, hematemesis, early menopause or menstrual irregularities, pigmentation, absence of perspiration and mental weakness even to dementia.

The cause of the disease is as yet undetermined. Syphilis may play an important part, the thyroid gland has been found atrophied in some cases, interstitial neuritis and haemolymph glands have been found, but most interesting of all is the enlargement with new formation of the pituitary gland. The compensatory relation between the thyroid and pituitary glands seems fairly well established.

One differentiates from general obesity by the distribution of the fat, the firmer fat of adiposis dolorosa, the pains, and the escape of the feet, hands and face. One differentiates from Myxoedema by the absence of many of the signs of that disease, notably the peculiar mask-like face, spade-like hands, infiltrated skin, slow speech, tetany, and by the presence of pain and pressure. Myxoedema responds to thyroid medication; adiposis dolorosa is usually unaffected.

The disease is progressive and incurable, though

some have reported success with thyroid preparations and some from pituitary gland preparations. Death results from intercurrent disease.

Only about sixty cases are on record and only one observer noted hereditary etiology. Some cases refer to rheumatic or pseudo rheumatic attacks preceding the deposit of fat, suggesting the need of further study in metabolic etiology.

The case presented is a married female ,53 years old. Her parents are alive and healthy and over 80 years of age. One sister died of typhoid fever and one of an unknown cause; a third sister is alive and well.

The patient had four children and one miscarriage, due to accident, fourteen years ago. One child died nine months of age of convulsions, one daughter died in child-bed, two other children are strong and well.

The patient presented herself at my clinic on January 14, 1910, complaining of pains, swelling in the legs, weakness and nervousness. On attempting to examine her it was noticed that she was sensitive to the pressure of the finger. This together with unusual fat formation, led directly to the diagnosis, which later was endorsed by Dr. Herbert Moffitt in consultation. Her arms and legs are much enlarged but do not pit, although very tender, so tender that the application of the pneumatic bag necessary for the use of the spygmomanometer was endured by her only with great pain. The fat is located mainly in the arms above the elbows, over which it drops in thick folds, and on the thighs to the knees, at which point it again drops, and on the abdomen, where it forms a huge, pendulous mass.

The face, hands and feet are normal. The patient is weak physically, neurasthenic and psychasthenic. Part of her nervous condition may be due to two recent tragedies in her family circle. A few months ago a daughter died in child-bed, leaving a premature infant on the patient's hands; soon after, a son-in-law murdered a man and was sent to the insane asylum. The skin is normal, the blood pressure is 147, the blood-count normal, the haemoglobin normal. She urinates frequently day and night, passing seventy-seven ounces in twenty-four hours, but the urinalysis was otherwise normal. She gives a non-alcoholic history, non-syphilitic story, the thyroid is not palpable, heart seems normal, weight 251 pounds (dressed), menstruation ceased during the fifty-third year; knee jerks are absent; there is no pigmentation; she perspires normally; has no nose-bleed, but has constant headache; no herpes, but vomits easily (no blood) nearly every night. Now has tenderness and pain, spontaneous, at certain points on elbows, wrists and shoulders.

About nineteen years ago (living in Placer County, Cal.) she cleaned a house, scrubbing, etc., during a menstrual period, got damp, and developed acute (possibly rheumatic) fever in both ankles and knees. It was a sharp attack and kept her a bed about two weeks with swollen and tender joints. At this time she first noticed the increase in fat.

In a private communication Dr. F. X. Dercum stated that he has "also seen cases in which catching cold" or "'rheumatism' seems to have been an etiological factor," adding that in such cases he thought "we had to deal with some unknown infection which permanently damaged the pituitary gland or possibly the thyroid."

Thyroid and pituitary preparations have failed to relieve the patient.

The interesting features of this case are the rarity of the disease and the apparent relation etiologically to acute rheumatism.

## SAN FRANCISCO COUNTY.

The attendance at the July meeting of the San Francisco County Medical Society was nothing short of remarkable, when it is remembered that July is vacation month for most city practitioners. The scientific program was as follows:

1. Cases of Derangement of the Knee Joint.—Ethan H. Smith.

2. Management of Labor in Contracted Pelvis.—Henry J. Kreutzmann.

3. Nature and Cause of Edema, with Demonstration.—Martin Fisher.

Dr. Fisher's detailed expose of his theories as to the cause of edema evoked considerable interest and discussion, for his work it would seem gives an entirely new interpretation of phenomena heretofore never scientifically explained.

The regular monthly meeting of the San Francisco County Medical Society was held August 9, 1910, at 8:30 p. m. The scientific program was as follows:

Report of Case, Wm. C. Voorsanger.

Presentation of Case, J. T. Watkins.

A Case of Lingual Thyroid, Wm. F. Blake. (This case will appear in a later number of the Journal.)

Bronchoscopic Treatment of Bronchial Asthma—with demonstration on a living patient, Henry Horn. (This paper will appear in the Journal of the A. M. A.)

A Case of Thrombosis of the Retinal Vein, Edgar W. Alexander. (This paper will appear in a later number of the Journal.)

Report of a Case of Coccidioidal Meningitis with Death from Anaphylaxis, H. A. L. Ryfkogel. (This paper will appear in the Journal of the A. M. A.)

The following were duly elected to membership: Drs. Percy Sumner, Larz A. Smith and A. E. Garceau.

An amendment to the by-laws was adopted raising the annual dues to $12.00.

## SONOMA COUNTY.

Regular meeting held July 8, 1910, at the Sonoma State Home.

In the absence of the president, Dr. Stewart was appointed temporary chairman. The minutes of the last meeting, held June 30, were read and accepted. Dr. Anna M. Gutzwiller presented a paper: "Chorea (Sydenham's); Huntingdon's Chorea; Athetosis; Habit Spasms"; dealing with the different diagnoses of these nervous conditions. A number of clinical cases among the patients of the Home were demonstrated, illustrating the above named neuroses. These children proved of great interest to the attending physicians, who were delighted with this opportunity of studying these rare conditions—seldom met with outside the Home.

Dr. William J. G. Dawson, who had just returned from an interesting tour throughout the East, having visited many feeble-minded institutions and epileptic colonies, gave a very instructive talk upon the methods of the examinations of the mentality of the feeble-minded, and the results obtained in the manual training of the same in these Eastern institutions.

A motion was made and carried that the next meeting be held at Healdsburg.

The meeting was then adjourned, after a vote of thanks was extended to Dr. Dawson and his assistant for the instructive meeting. After refreshments were served, several of the physicians visited parts of the Home, thus completing a very entertaining afternoon.

A. M. GUTZWILLER, Acting Secretary.

## QUEER MISTAKES IN INSURANCE EXAMINATIONS.

If the doctor is to believe all the statements made to him by applicants for life insurance, certain families have been distinguished by their strange happenings. The *British Medical Journal* selects a few of the most amusing from a large series of blunders:

"Mother died in infancy."

"Father went to bed feeling well, and the next morning woke up dead."

"Grandfather died suddenly at the age of 103. Up to this time he bid fair to reach a ripe old age."

"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."

"Applicant has never been fatally sick."

"Father died suddenly; nothing serious."

"Applicant's brother, who was an infant, died when he was a mere child."

"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."

"Applicant's fraternal parents died when he was a child."

"Mother's last illness was caused from chronic rheumatism, but she was cured before death."

## THE BULLETIN OF THE STATE BOARD OF HEALTH.

The August number of the Bulletin of the State Board of Health is devoted largely to the subject of vaccination, and this question is discussed in all its phases and from every standpoint. There are excellent articles by Stanley P. Black of Pasadena, Bancroft of Los Angeles, Regensburger, Russ and Alderson of San Francisco, Pope of Watsonville, Hogan of Vallejo and Medical Inspector Gatewood of the United States Navy. The legal aspects of vaccination are discussed by J. E. Gardner, the attorney for the Board, and there are voluminous statistics gathered from all portions of the State. Dr. Wm. F. Snow, the Board's Secretary, reviews at length the history of smallpox in California. This *Bulletin* will greatly aid the Board in enforcing the vaccination law, for it appeals to the general reading public. The *Bulletin* will be sent to any citizen of the State on request to the Secretary, Sacramento.

## ILLEGAL PRACTITIONERS AND ADVERTISING QUACKS.

A short time ago a circular letter was sent to every registered physician in San Francisco, asking him to report the name and address of any one he suspected of practicing medicine without a license; the machinery of the Board of Examiners was ready to work, and names of illegal practitioners were desired. Less than a half-dozen such names were sent in, but dozens of letters were received calling attention to various advertising concerns. Repeatedly has the Journal made the announcement that all these concerns are either run by some licensed person, or the proprietor has a licentiate in his employ to do the work and take the responsibility. Nearly all of them in San Francisco have been investigated, and this has been found to be the case. The Board of Examiners is ready to proceed with prosecutions, and requests that names of illegal practitioners be communicated to the Board so that the work may go forward.

## PUBLIC HEALTH COMMISSION.

To the Secretaries of County Medical Societies: The Public Health Commission feel that an energetic campaign for public health must be waged during the coming year, and in order to do this it will be necessary for us to have a good active public health committee in each county medical society.

One of the lines of work we suggest is the giving of three or more public health lectures at suitable places in each county; these lectures to be illustrated by lantern slides. It will be possible in some instances for the State Public Health Committee to furnish a speaker or speakers to give these lectures, but owing to lack of funds to carry on this work, it will be necessary for the local committee to furnish most of the speakers.

We feel that the time has arrived for each county to arrange for an active campaign to secure an annual appropriation of, say, $10,000, to be used by the State Board of Health to carry on this work properly. The Legislature will meet this fall, and we hope your society, through its public health or other committees, will have all the candidates sign the statement, copies of which have been sent you by Dr. Philip Mills Jones, secretary of the State Medical Society.

If we can induce the next Legislature to give the State Board of Health $10,000 annually for educational work in hygiene and sanitation, much progress can be made. Up to now, California has spent very little money in public health work.

Will you not co-operate by appointing, to-day if possible, a public health committee for your county society that will be energetic and public-spirited enough to devote some time to the work?

Remember, we must see these legislative candidates at once. Send us the names of your committee without delay. The State Public Health Committee ask you to do this without waiting for a meeting of your society. May we count on your co-operation?

Awaiting your reply, I am,

Fraternally yours, F. C. E. MATTISON.

## ANOTHER VICTIM OF MEDICAL WORK.

In July last, Dr. Mihran K. Kassabian died in Jefferson Hospital, Philadelphia, from cancer following upon an X-ray burn of the hand in 1902. Two years ago Dr. W. W. Keen amputated two fingers, hoping to stop the malignant process. Subsequently Da Costa amputated the arm, and later the pectoral muscles, but the disease continued unchecked. Here in San Francisco we have had at least one similar death from cancer following upon X-ray burn, and there have been, all told, quite a number of such fatalities. Dr. Kassabian was one of the foremost experts in the United States in X-ray work, and his death will be a distinct loss.

## DANGER IN THE SUGAR BOWL

A correspondent calls attention to a by no means small danger to be found in many restaurants, particularly of the smaller sort, and in the dining-rooms of the cheaper hotels. A patron will take granulated sugar from the bowl, put it in his cup of tea or coffee, stir it up, and then taste it to see if it is sweet enough. If it is not, he will not infrequently return the same spoon to the sugar bowl for more. Now, should he have a few mucous patches in his mouth, or be an unfortunate in the later stages of tuberculosis, the possible result of his filthy act is not nice to contemplate. It is suggested that only cube sugar be served in open bowls and that powdered or granulated sugar be served in covered shakers.

## NEW MEMBERS.

**McEnery, W. A.**, San Francisco.
**Capps, Wm.**, San Luis Obispo.

## DEATHS.

Baylor, Wm. C., Willows, Cal.
Lynch, Wm. F., Elmhurst, Cal.
Adams, P. A., Honolulu, H. I.

# California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. VIII OCTOBER, 1910. No. 10


## EDITORIAL NOTES.

Please, Please, PLEASE read the editorial notes in this issue which refer to advertising and advertisers—and not only read them, but also think about them—and then act. It is just as important for you to regard with serious interest this matter of advertising as it is for you to consider any other matter connected with your "Journal." And just remember, please, that it is your "Journal."

**THIS IS DISHEARTENING**

How in the world do you suppose an Advertising Committee or a Publication Committee or an editor can continue forever to devote a great deal of time and energy to building up your JOURNAL when you, as individuals, will not do much if anything to help? Some time ago, after a good deal of persuasion, we induced an eastern manufacturer to place a half-page advertisement in the JOURNAL for four months, assuring him that the members of the Society took a good deal of interest in the advertising pages of their publication. The preparation advertised was, of course, approved by the Council on Pharmacy and Chemistry, and in the advertisement the manufacturer offered to send samples or literature on request. At the expiration of the four months he wrote saying, "We are sorry to say that we did not receive one single inquiry relating to your journal." It is true that this preparation was new to this part of the country; but so much the more reason for taking an interest in it and finding out something about it. Once more we ask each and every member of the Society to take an interest in the advertising pages of his JOURNAL; write for literature and samples; let our advertisers know that we do take an interest in them as they take an interest in us; find out about the stuff they offer,—if it is not good you don't have to use it, but at least *find out* about it and let the advertiser know that you take some interest in what he has to offer you. You cannot get along without co-operation; get busy and co-operate; help the advertising committee; help your own JOURNAL; help yourself to a little information; boost. It does not take much time once a month to look through the JOURNAL and write to one or two advertisers; do it. You have done it before, for we have had other reports from advertisers; do it again; keep on doing it; get the habit and then don't lose it; let the advertisers know that you are alive and also that they are.

**A WORD TO OUR ADVERTISERS**

Commenting upon our request to our members to ask all detail men and agents if their house advertises in the JOURNAL and if not why not, one of our advertisers makes an excellent suggestion in a letter recently received. This house has advertised with us for more than a year and has changed the advertisement every month, calling particular attention in each issue to some particular thing likely to be of interest to some of our members. They report that while their business in California has grown, no inquiry has come to them, so far as they can trace it, directly as a result of these advertisements. Undoubtedly a good deal of business has gone to this firm as a result of the advertisements in the JOURNAL, but our members have failed to let the house know that their attention was called to the firm's goods by the advertisement. It is almost as important to let our advertisers know that their advertisements are noticed and read as it is to patronize them; general business growth is one indication of returns from advertising; but specific instances where goods have been ordered as a direct result of an advertisement is a very much more valuable indication of satisfactory advertising. Please let our patrons know that you patronize them because they advertise in the JOURNAL. The house in question suggests that detail men and agents, in reply to the query, "Does your house advertise in our JOURNAL, and if not, why not?" shall ask the members of our Society upon whom they call, "Do you read our advertisement which is in your JOURNAL?" To agents and detail men we commend this very highly; by all means find out whether our members are really interested in the advertising pages of their JOURNAL—and then go one step farther; let the JOURNAL know those members who do not take any interest in it and we will try to find out why they do not.

Let us, by all means, co-operate; let us find out whether the business side of their JOURNAL is of sufficient interest to the members of the Society to make it of any advantage to advertisers to patronize our publication; if the business is not of any particular interest, then let us quit publication, for otherwise we are obtaining money by false pretense.

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**NOT ALL BLACK**

But the view of this advertising question is not absolutely black and gloomy. Many of our advertisers report a good deal of interest; one eastern house wrote us gratuitously saying that they had received over two hundred letters of inquiry; another advertiser states that he feels that nearly all of his California business has been built up as a result of his advertising in your JOURNAL; another eastern house, which formerly advertised with us, reports that its business in California has decidedly diminished since it discontinued its advertisements, and it is now planning to resume advertising in your JOURNAL this winter. All these things are pleasant, to be sure, but they do not counteract the gloomy influence of a report of "lack of interest." There should be no lack of interest. Your interest in your JOURNAL should be sustained and continuous; it should not be spasmodic or intermittent. You should make it your business to read the advertising pages every month and to take a continued and growing interest in the advertisers in your JOURNAL.

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**PERSONAL MENTION**

When the JOURNAL was started, a question of policy arose and received considerable discussion by the Publication Committee; should a column or more of personal items be published each month? "Dr. Doe has gone to Europe; Dr. Roe has returned; Dr. Jones has visited the South; Dr. Brown, of Los Angeles, has been staying in San Francisco" —and that sort of thing. It was then decided not to publish a department of this sort; several times since then the question has been raised and each time has been similarly decided. It was reasoned that, if the JOURNAL published an item to the effect that Dr. Doe had gone to Europe and did not note the fact that Dr. Roe—also a member—had likewise gone to the same place, Dr. Roe might feel slighted and feel a certain amount of resentment against the Society. Obviously, it would be practically impossible to secure reliable information of the movements of every member of the Society, and thus a good many members would, from time to time, be slighted and an injury would result to the Society that would be more serious than the omission of all personal items. Again, the JOURNAL has been requested to publish a department of personal mention, and we put the question up to the members; what do you think about it?

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**ANOTHER CONVICTION**

According to a dispatch to the *Call*, Dr. T. H. Dixon, of Knight's Landing, a prohibition town, was recently convicted for selling liquor. He would write prescriptions for liquor and then fill them himself at his own drug store, and on testimony to this effect he was convicted; it is said the case will be appealed. The matter has been referred to the Board of Medical Examiners, and it is probable that the Board will take steps to revoke the license of this physician. There is no special and particular reason why one licensed to practice medicine should consider himself licensed to violate any of the laws of the State. Crooks and criminals there are in every profession and in every calling, but to find them in the profession of medicine is not pleasant. The time, however, when they could continue their crookedness or their criminality with impunity, in this State has passed, and slowly but surely they are to be weeded out.

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**DEPARTMENT OF HEALTH.**

The opposition of certain well known "interests" to the creation by the national Congress of a Department or Bureau of Public Health continues, even though Congress is not in session. A committee of eminent citizens (of which we shall have more to say later), has been formed to promote the organization of such interests in what is known as the "League for Medical Freedom," in California. The "League" also continues its press bureau and its supply of distorted and tainted news and successfully works some of the largest papers in the country. A distorted story was published not long ago in the New York Herald, headed "President Taft gave to-day the knockout blow to the Department of Health proposed by the 'Doctors' Trust'." As a matter of fact, President Taft did no such thing; he has fully approved of the effort to secure as much attention to the health of children as is given to the health of pigs, and his attitude has not changed. During the weeks when the Owen Bill was before Congress, this "League for Medical Freedom" (composed of the interests that thrive on nostrums, adulterated and misbranded foods, etc.), spent not less than $25,000 a week in distorting news, fomenting opposition, getting together all those who always oppose anything, and generally stirring up as much dust as possible in order to confuse the issue and conceal their real position. These same interests will oppose this proposed legislation just as they fought the pure food and drugs act, and they will spend a lot of money in delaying action. But the bill will eventually pass, for you cannot blind all the people all the time, and they are beginning to appreciate the fact that the health of the human is quite as valuable an asset as the health of hogs or cattle. Insurance companies have known this from the dollars-and-cents point of view for a long time and they are not going to be at all blinded by the thinly veiled opposition of interests that make for ill-health, fraud and deceit. There will be a Bureau or a Department of Public Health in the course of time, just as sure as God made little sour apples; but before it comes we will have located the position of a good many noble citizens who place their own pockets before honesty or the public good.

**RAILWAY SURGEONS**

The eighth annual meeting of the Pacific Association of Railway Surgeons, which was held in San Francisco toward the end of August, was a very successful one in every way. Some dozen or more papers were read (nearly all of these will appear in subsequent issues of THE JOURNAL), to unusually large audiences and the discussions were gratifying as indicating the interest taken in the association and in the special problems of one dealing with railway work. Each of the two days' sessions began with an excellent lunch served at the St. Francis, and the discussion of papers followed upon the completion of the luncheon. Anything that will bring together men who have common interests and a common work, but who are geographically separated, is a good thing; it is well for men of similar occupations and similar interests to know each other personally and not as mere units in the problem, without personal interest or identity. The association began in a small way and struggled for existence during its early youth, but now it seems to be growing and developing and serving a very useful purpose. The officers elected for the coming year are as follows: President, Dr. O. D. Hamlin, Oakland; first vice-president, Dr. Wallace I. Terry, San Francisco; second vice-president, Dr. Robert T. Legge, McCloud; treasurer, Dr. E. M. Keys, Alameda, and secretary, Dr. G. R. Carson. Dr. Carson has been the secretary now for some few years and has done much to build up the association.

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**EMPIRE COMPANY**

More inquiries have reached us as to the standing of the Empire Life Insurance Company, of Seattle. The question is hard to answer. *A priori*, any company, concern or individual who has a legitimate enterprise and applies to physicians to buy stock in it as a business proposition, should be regarded with suspicion; there are enough capitalists—and a few over—to take up all the stock of any company that is a "sure thing winner." The company, in some published matter, undated but recently received, announces that it does not expect to begin writing insurance before "the first of the year," at which time it hopes to have in the treasury one and one-half millions of dollars. It lays great stress upon the fact that it is to select its examiners and its "health bureaus" from the best physicians; but if the purchase of stock is to insure one a job or connection of this sort, where does the selective process come in? Merit, ability, standing, professional qualifications will mean nothing, unless there in some misunderstanding, as against the holding of a few or a many shares of stock. How this haphazard choosing of examiners is going to effect the reliability of the policies and therefore of the company, does not seem to need much explanation. A twenty-dollar share of stock in the Empire Life may be worth as much as, or even more, than a twenty-dollar gold piece; but why this anxiety to sell stock to physicians?

**THE LANE LECTURES**

The directors of Cooper Medical College are to be congratulated upon their effort, crowned with success, to resume the annual course of Lane Lectures. For the past few years, owing to the "peculiar" manner in which the money left by Dr. Lane, supposedly for this and other purposes of the College, became diverted into the possession of an individual, the directors have been unable to provide funds for carrying on this work originated by Dr. Lane and supported by his funds. The course for 1910 was delivered by Dr. Reginald Heber Fitz, of Harvard University, at various dates between the 12th and 20th of September, and covered the very interesting subject of the lymphatic system, status lymphaticus, etc. The attendance was good and the lectures were appreciated by the many physicians who took advantage of the opportunity to hear them.

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## CARNEGIE FOUNDATION REPORT ON MEDICAL EDUCATION; A REPLY TO THE CRITICISMS FROM COOPER MEDICAL COLLEGE.

The following communication has been received from Dr. Pritchett and as the letter from the faculty of Cooper College was published in the last issue, the reply to that letter, which was somewhat in the nature of criticism of the report, is published herewith.

Teignmouth, England,
August 29, 1910.

My Dear Sir:—Let me acknowledge your courteous letter of the twenty-fifth of July, written on behalf of the faculty of the Cooper Medical College, in which you object to certain expressions in the description of that school as it appeared in the recent Report on Medical Education in the United States and Canada, issued by the Carnegie Foundation. The Foundation is desirous of securing in its reports as great accuracy as possible and welcomes any such courteous statement as that which you and your colleagues have sent. Let me endeavor in the same spirit to point out a little more clearly the standpoint from which the report was prepared and to give the reasons which make us feel that the report represented the essential facts concerning the school.

Your letter seems to me to some extent to be founded upon a misconception; for the report does not profess to deal with the Cooper Medical College now passing out of existence, but only to deal with it in so far as it is taken over by Leland Stanford Junior, University. This is made clear on page 193, where the institution is described not as "Cooper Medical College" but as "Leland Stanford Junior, University School of Medicine on the Cooper Medical College Foundation."

The account of the school which had been prepared was therefore sent to President Jordan some months before its publication for such criticism as he and the officers of the medical department of the university desired to make. He returned it with a few suggestions, all of which were incorporated in the report as published. After sending the report in advance to the authorities of the university, we were justified in feeling that they concurred in the statements which were made.

With regard to the detailed statements with which you deal, I venture to make the following replies:

You contend that in describing the Lane Hospital as a pay hospital the report conveys an erroneous impression. I think you have again misunderstood the meaning of the report. It was intended to show that Lane Hospital, just taken over as the main reliance of a university clinical department, could not support that role because, being without adequate endowment, it had to earn its way. Educationally it is immaterial where the profits go; in describing it as a "pay hospital" it was not intended to imply that the profits went into anyone's pockets, but it was simply meant to indicate that the patients could not be used for teaching purposes as they paid for their care. This situation is, as I understand from your letter, the situation as it stand to-day; and the term "pay hospital" meant nothing more than this.

You object in the second place to our statement "The catalogue statement that the Lane Hospital is a teaching hospital is hardly sustained by the facts" because, as you say, the catalogue does not say that it is a teaching hospital but only that it was designed as a teaching hospital. I am not clear that I entirely understand this argument. The language of the catalogue would unquestionably create in the mind of a prospective student, as it did in ours, the impression that Cooper Medical College had in Lane Hospital a hospital that was the best sort of teaching hospital because it had been designed as such. To argue now that the catalogue description meant only that the school is connected with the Lane Hospital, designed but not used as a teaching hospital, is an argument that I do not entirely understand; and I am inclined to feel that the argument is not exactly that which you had in mind. Certainly the men employed in the Cooper school emphasized strongly the fact that the Lane Hospital belonged to the school, implying at once its teaching value.

With regard to your objection to the statement that the hospital records are meagre and uneven, one can only say that this is a question of individual judgment and standards. It still seems to us, from our knowledge of the best institutions in this country, that our description was quite fair; and the information which we had in respect to the school did not depend upon a single visit nor upon the observation of one person alone.

The statement made in the report with regard to post mortems is correct, as it seems to me, so far as present conditions are concerned; and it was only with these that the report undertook to deal, as was made clear in the introduction, page xvi. The same remark applies also to clinical facilities. No reference is made to the old City and County Hospital, for it no longer exists, nor to the new hospital now building, for it is not yet a factor in the situation. The report mentions Lane Hospital only for that is practically all the school now has. The best evidence of the correctness of these statements is furnished by the schedule which you kindly enclosed, since this shows that all the clinical and pathological work offered outside amounts to three hours a week, one hour in medicine, one hour in surgery, and one hour in pathology.

The opinion expressed in the report concerning the dispensary was based on an examination of the records, equipment, and so forth, and upon inquiries as to how it was used in teaching. The conclusions expressed were endorsed by at least one or two men connected with the school.

With regard to the facilities in obstetrics, I am unable at a distance from the office to make a definite reply. The information was procured from those in the Lane Hospital itself.

Let me say again in conclusion that I appreciate the kindly spirit in which your letter is written; but I am still persuaded, in view of the care which was taken in the preparation of the report, that the differences to which you call attention are differences rather in point of view than differences in the actual facts. The financial statement which you make at the end of your letter is itself quite full proof that the Cooper Medical College is being maintained on a scale entirely inadequate to the demands of modern medicine. I am quite aware that in this institution and in many similar ones a large measure of devotion has been given which cannot be represented in the income account of the school. Such devotion is sometimes wise, sometimes unwise. But in any case, it is clear that a university school of medicine cannot be sustained upon any such basis as that which you describe.

In view of the kindly letter which you and your colleagues have sent, I cannot close this reply without reference to one other matter which seems to me of supreme importance to medical education in San Francisco, and that is to the regrettable competition brought about by the effort to conduct two medical schools in that city. It will be difficult enough to build up in San Francisco a single medical school, maintained and conducted upon modern ideals. The effort to conduct two makes the whole future doubtful. Is it not possible for those interested in medical education in San Francisco to come together in one effort worthy of modern medicine and of your great city?

Very sincerely yours,

(Signed) HENRY S. PRITCHETT.

Dr. Henry Gibbons, Jr.,
Dean of the Cooper Medical College,
San Francisco, California.

## ORIGINAL ARTICLES

# TREATMENT OF CHRONIC GASTRIC ULCER.*

By George E. EBRIGHT, M. D., San Francisco.

The chief purpose of this paper is the consideration of the treatment of those rather common cases of simple gastric ulcer which are of considerable duration and which show a lack of tendency to heal and a marked tendency to recur, which are usually of not such severity as to confine the patient, but which do interfere more or less with his general health—a class of cases to which the term ambulatory might be applied. A very brief consideration of the chief subjective and objective effects of this lesion will more clearly define the scope of the measures that will be advocated for its treatment.

Associated with most gastric ulcers is a state of deficient general nutrition. This is manifested by a very constant presence of anemia and a loss of body weight. A discussion of the cause of the ulcer is out of place here, as well as the question as to whether the deficient nutrition causes the ulcer, or the ulcer causes deficient nutrition. The blood picture is usually that of a chlorosis of varying degree. It is very usual to find only a moderate hemoglobin deficiency, such as 65 per cent to 75 per cent, while the red blood cells maintain an approximate normal: that is, a color index of from 0.60 to 0.81. In my experience, often more striking than the blood picture, is a loss of weight that the patient suffers. For instance, a girl of 23 whose weight was 117 had lost 24 pounds, another whose normal weight was 147 had lost 20 pounds, another a woman of medium build had lost 25 pounds.

The stomach, of course, partakes of the general lowered resistance, and when the ulcer is once established, the deficient metabolic processes are of the greatest obstacles to its healing, just as, for instance, the surgical wound will heal more kindly and promptly in a strong, healthy person than in one of low vitality. Daettweiller demonstrated that an ulcer which he caused in a healthy dog's stomach healed in 18 days, while an ulcer of similar size in the stomach of a dog that had been rendered anemic was not healed in 31 days. In 60 per cent of chronic gastric ulcers, hyperacidity exists. Hyperacidity, as shown by Matthes, is not the cause of ulcer unless an erosion exists. In his experiments on dogs 0.56 per cent HCl flowing over the gastric mucous membranes did not produce ulceration, but if ulceration was already present it prevented its healing and caused it to become chronic. Treatment therefore necessarily has first to deal with removing hyperacidity and at the same time so improving the patient's general condition that he generates within himself adequate reconstructive powers.

Pain is not only a distressing symptom, but it is an important element in causing loss of weight, in that it prevents the patient from taking proper nourishment and also interferes with his sleep. For example, in Case 2, during an attack she ate and slept very little and lost ten pounds in five days.

Case 1. A. H., a clerk, 24 years old, who had had intermittent pain in his stomach since childhood and at the time of examination gave him considerable trouble about an hour or more after eating. Examination showed this pain to be limited to a point 2½ inches below the ensiform process, which was constantly tender on pressure. A peculiar circumstance was that he could cause this pain by lying on his back for about an hour and could immediately relieve it by lying on his stomach. There was a tender Head's area just to the left of the spine between 10th and 12th ribs. He appeared under-nourished, although he claimed to have lost no weight. His hemoglobin was 83%, red blood cells 4,760,000, color index 0.87. Leukocytic formula was normal. Analysis of the gastric contents one hour after Ewald breakfast showed:

| | |
|---|---|
| Total acidity | 0.457% |
| Free hydrochloric acid | 0.292% |
| Combined hydrochloric acid | 0.164% |
| Total hydrochloric acid secreted | 0.456% |

The gastric motility was normal. There was no dilatation, X-ray photograph after bismuth meal showed normal shape and position of the stomach.

This man was allowed to attend to his usual duties, at first was allowed tentatively to continue with his usual general diet and was given 30 grain doses of bismuth salicilate before meals. This had no effect upon his pain by the end of ten days. He was then placed upon a strict milk diet and the bismuth discontinued. Amelioration of symptoms began at once, but the milk had no effect in reducing quantity of acid, as is seen by the following analyses which were made with the following object. Having previously noticed the benefit from milk and that the patient also did well with raw eggs, it occurred to me to first see to what extent the character of the gastric secretion changed since milk diet was instituted. Next, whether, after several days of milk diet, the secretion had undergone modification after having been in the habit of having milk diet alone. Similarly to ascertain the effect of raw eggs, not only when they were first used, but also after a lapse of a number of days. The results were as follows. On the morning of the first day of milk diet, 500 c.c. of milk were given and withdrawn with a stomach tube at the end of an hour. This showed:

| | |
|---|---|
| Total acidity | 0.41% |
| Free hydrochloric acid | 0.20% |
| Combined hydrochloric acid | 0.197% |
| Organic acid and acid salts (chiefly lactic acid) | 0.018% |

At the end of three days on milk this was repeated with the following result:

| | |
|---|---|
| Total acidity | 0.210% |
| Free hydrochloric acid | 0.266% |
| Combined hydrochloric acid | 0.167% |
| Total hydrochloric acid | 0.433% |
| Organic acid and acid salts | 0.034% |

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

The following day he was given a test breakfast of 500 c c of milk in which were mixed two raw eggs. This was withdrawn in an hour and showed that the acidity had dropped to less than half what it had been the day before, as follows:

| | |
|---|---|
| Total acidity | 0.2098% |
| Free hydrochloric acid | 0.025% |
| Combined hydrochloric acid | 0.117% |
| Organic acid and acid salts | 0.067% |

The patient was then directed to take two quarts of milk a day with four to six raw eggs, and at the end of five days the milk and egg test breakfast was again given. Withdrawn at the end of an hour showed:

| | |
|---|---|
| Total acidity | 0.219% |
| Free hydrochlorid acid | 0.058% |
| Combined hydrochloric acic | 0.058% |
| Organic acid and acid salts | 0.102% |

It is not only noticed that the addition of the eggs caused a diminution of the total hydrochloric acid, but also, as would be expected, the combined hydrochloric acid was much in excess of the free hydrochloric acid, while the contrary was the case with milk alone. No drugs were given except cathartics as they were required. About the end of three weeks after beginning milk treatment and during which time meat, rice, etc., had been added, all evidences of ulcer had disappeared, i. e., the patient suffered no pain whatever and upon examination no tenderness could be elicited. At this time was given a pill containing carbonate of iron and strychnin.

Case 2. Mrs. X, age 30, who had very severe gastric pains for the preceding year, which began, as a rule, three or four hours after eating and which would continue from a day to several days at a time. They could be caused at any time by certain indigestible foods. She was 30 pounds below her normal weight, which was 168. Color index of blood was 0.75. February 18, 1910, she had an acute exacerbation which had lasted four days. Pain was sharply localized in epigastrium, constant in position. She was put on diet of a quart of milk and six to twelve raw eggs per day with 30 grains of salicilate of bismuth, 5 grains bicarbonate of soda before meals. Patient remained on her feet and improvement began promptly. The diet was increased in a few days by allowing at first rice, potatoes and white meat. In the following six weeks the patient gained 15 pounds and she was free of symptoms and her condition was better than it had been for a year.

Case 3. Miss Y., a woman of 29, had had irritable stomach for many years. Was unable to eat any food except a little rice, was hungry but apt to be miserable with pain when she ate; so she ate very little and infrequently. Had fallen from 147 pounds to 128. Physical examination showed pain to be in epigastrium, which showed sharply localized tenderness. Color index 0.75. This patient could not take milk and was given a diet of raw eggs together with bismuth and soda. The diet later was increased by addition of starches which were well tolerated, and the patient was given iron and Fowler's solution alternately. Her progress was gradual, but on the whole satisfactory. By the end of six weeks she was considered well. At the expiration of three months was within a few pounds of her normal weight, having gained ten pounds.

Case 4. Miss Z., a stenographer, 23 years old, complained of having had stomach trouble for years, especially in the preceding few weeks. She had heartburn and acid eructations. She weighed 93 pounds, having lost 24. She was unable to eat without pain of a violent character in the abdomen. Physical examination of the patient showed tender spot the size of a dime in the upper part of the epigastrium. Examination was otherwise negative. Patient was put on milk diet with 30 grain doses of bismuth before eating. She was allowed to continue her work. In a month was well and had gained 4 pounds. She found, however, that fruit caused distress and that it was difficult for her to get along without bismuth. During the next five months her health was, on the whole, greatly improved, but she had a couple of short relapses which necessitated dietary restrictions.

Case 5. Miss K., 33 years old, presented herself October 6, 1908. Patient had been an invalid with stomach trouble since childhood. She had been anemic for a long time. Easily out of breath and complained of a pain like the toothache in the lower part of the sternum above the ensiform. She was very constipated, had hematemesis several years before in a similar attack. She had a mitral valvulitis traceable to articular rheumatism some years past. The patient was in distress after eating, though sometimes not for an hour or so. Acid foods gave the most trouble. There was deep induration in the epigastrium, apparently of the stomach, and this was quite painful on pressure. Patient improved steadily on a quart of milk a day and three raw eggs, and within a few weeks was eating a very general diet. After a lapse of a year and a half has had no recurrence and has enjoyed better health than at any time in the preceding 25 years.

It is seen that these cases are all chronic and of a comparatively mild type. There was no hemorrhage in any of them and history of hemorrhage in only one. The symptoms of all were ameliorated by milk diet, sometimes with the addition of bismuth and soda. They all had more distress after taking acid food, such as fruit. It was noticed in several instances that even after recovery it was some time before the patient could, with impunity, take irritating food. For instance, although Case 5 has had no indications of trouble for a long time, she knows that she can cause pain by taking apple sauce. Case 2 can bring on pain by eating nuts.

In Case 1 the paradox of the proteid food, i. e., eggs, causing diminution of the hydrochloric acid secretion, is only apparent. According to Starling (E. H. Starling, University College, London, Recent Advances of Physiology of Digestion) there is a marked difference of activity in the two portions of the stomach, the larger part acts as a reservoir which contains the mass of the food and slowly contracts upon it, propelling the fluid portions toward the pyloric end. The presence of milk in the cardiac end of the stomach excites the reflex nervous mechanism, bringing about secretion of a small amount of gastric juice; this in turn passes over the epithelial cells in the pyloric region, stimulating them to the formation of gastric secretin or harmone, which circulating in the blood stimulates the peptic glands and causes outpouring into the stomach of by far the greater amount of the hydrochloric acid present during the digestion of that meal. Now, when raw eggs are taken in addition to the milk, the egg albumen unites with the free hydrochloric acid, forming loosely combined hydrochloric acid. Combined hydrochloric acid does not stimulate the pyloric cells to form gastric harmone, hence the fall of hydrochloric acid from 0.4 per cent to 0.14 per cent.

Milk diet will, as a rule, relieve the pain. Of drugs there is not a great deal to be said. Bismuth is of decided value in relief of pain, given in doses of 30 grains of the subnitrate, salicilate, subgallate, or oxychlorid. It is well to combine it with small amount of bicarbonate of soda. One might hesitate to use the subnitrate in cases of gastric dilatation with retained fermenting contents. Silver nitrate

causes an increase of hydrochloric acid and its clinical benefits are so questionable that it has no logical position in the treatment of this disease. Although experiments show that belladonna inhibits gastric secretion, it has not been demonstrated to be a satisfactory drug in this connection. Very important adjuncts, however, are the drugs with tonic action, and after acute symptoms are past exacerbation of the usual doses of arsenic, iron, quinin and strychnin are to be exhibited.

In more severe cases of gastric ulcer the verdict of statistics favors the treatment instituted by Lenhartz (*Lancet* of July, 1906). He treats such patients with rest in bed for at least two weeks with ice on the abdomen and begins, during the first 24 hours, even after bleeding, with 200 c.c. to 300 c.c. of iced milk and 2 to 4 beaten eggs. The milk is increased daily by 100 c.c. and one additional egg is given each day until the maximum of one quart of milk and 6 to 8 eggs a day has been reached. He then adds meat, etc. This regimen has been tried for some six years in Hamburg at the Eppendorfer Krankenhaus with a recurrence in 20 per cent.

Perforation, of course, demands immediate surgical treatment, the mortality of unoperated cases being 95 per cent. It is important, furthermore, to resort to surgical treatment with all possible dispatch, as the mortality in cases operated within 12 hours is only 25 per cent, while the mortality of those operated from 12 to 24 hours after the perforation is 65 per cent. Treatment of hemorrhage is to be divided according to the nature of the hemorrhage. Single large hemorrhages are best treated by rest and Lenhartz diet. It is generally admitted that bleeding is rarely directly fatal, but that recurrent hemorrhages are dangerous (Hale White). The difficulty of reaching the bleeding vessel is great and operation has a high mortality. The danger of causing perforation by feeding after the hemorrhage is negligible. Moyahan gives 21 cases of perforation and in none of them was there recent hemorrhage.

The question of surgical treatment arises in those cases where, after medical treatment has been tried for a reasonable time, the patient is not better or is worse. Patterson recommends that if, after six weeks' complete rest on a milk diet, followed by a three-months' careful diet, the patient is not free from clear and definite symptoms, or if he has a relapse, operation is indicated. Leube says four or five weeks should be sufficient to see whether medical treatment will suffice. Mayo Robson advises a fair trial for medical treatment in acute and chronic cases but adduces glowing statistics in favor of surgical interference. Sir Dyce Duckworth (*Brit. Med. Jour.*, December, 1906), points out the undesirability of operating for gastric hemorrhage in young women.

In summarizing, it may be said that the satisfactory treatment of simple, chronic ulcer of the stomach is a diet consisting for a few days entirely of one to two quarts of milk with, as soon as possible, from two to twelve raw eggs. The patient may be allowed to follow his customary routine of living. Large doses of bismuth are of value in controlling pain. The patient must at all times be on such diet as will improve, first of all his general state of nutrition, in other words forced feeding within the capacity limits of the stomach. Inasmuch as rectal feeding, which has been advised that the stomach may be put at rest, does not cause complete arrest of peristalsis and since it is known that retrograde peristalsis may be set up by it and the food given by rectum actually found in the stomach and since, at the best, rectal feeding is starvation diet, and particularly in view of the brilliant statistics of Lenhartz, it would certainly appear that starvation and rectal alimentation are illogical procedures in the treatment of chronic gastric ulcer.

### Discussion.

Dr. H. D'Arcy Power, San Francisco: Any rational discussion of gastric ulcer must take into consideration the fundamental and determining causes of the condition, especially the latter. It is to be remembered that gastric ulcer is one of the commonest of diseases—autopsy statistics showing its presence in from 6 to 20 per cent. of all post mortems, therefore its relation to other common conditions is as likely to be coincident as causative. But whether we attribute its presence to anemia, vascular perversions, hyperchlorhydria or lack of antiproteinase, we are equally confronted with the fact that it is almost confined to the region of the pylorus and antrim—that is where attrition and acid concentration are at the maximum. As I see it these facts supply the principal therapeutic indications. We must reduce acidity and avoid mechanical irritation. Reduction of acidity can be brought about by diminishing the secretion or neutralizing the product. It is at this point that I am unable to accept the theory, or concur in the practice of the Lenhartz treatment insofar as it prescribes an excessive egg diet. Undoubtedly this will reduce the free acid by combination, but the product of that combination is, as I understand it, a direct stimulant to the gastric hormone, and further hydrochloric acid production. This is only in accord with physiologic law, and the observations of Pavolow that the production of the digestive solvents is proportionate to the work they are called on to do. The administration of excess of proteids relieves the immediate condition, but provokes its reproduction. I prefer to neutralize excessive acidity with magnesium oxide, which I believe inhibits rather than excites the formation of gastric secretion. Further I believe the free exhibition of strontium bromide tends directly to control the neurosis of which the hyperchlorhydria is a part. The second indication is to avoid attrition of the ulcerated surface. The food must not only be soft, but devoid of residues after digestion has removed the major part. This is a reason why meat in a general way is contraindicated as the peptonization of the fibrous matrix is rarely complete in the stomach. The use of fat has been recommended, but it retards the emptying of the stomach, and this I hold to be undesirable. When pain and excessive mobility are present, I believe that small doses of morphia 0.003 to 0.005 grm. are decidedly beneficial. Bismuth subnitrate in 4 gram doses given at night when the stomach is empty is both rational and useful. With the rest of the Lenhartz treatment as practiced by Dr. Ebright I am in entire accord. It is a close approximation to that followed in English medical practice for the last twenty-five years and has served well.

Dr. W. A. Clark, San Leandro: It seems to me that this paper is very timely, following upon the heels of the surgical section. Those of us who are doing stomach surgery do not need to think that every patient complaining of pain in the stomach needs operation, as 80 per cent. of gastric ulcer cases are cured by medical treatment. At the same time the 20 per cent. left belong specifically to the surgeon. Dr. Ebright purposely takes up the medical

end of this question only. The medical man should not forget the danger of carcinoma in these cases, which frequently comes long before we think it does.

Dr. G. E. Ebright, San Francisco: With regard to the time when we should turn these cases over to the surgeon, most authorities agree that four or five weeks is about the limit within which the medical treatment should be tested. At that time if there is no improvement, it becomes a question as to whether surgical interference should be instituted, and it seems to me that we as internists, should then call for the opinion of the surgeon. These cases are border line cases. Sometimes it is better to adhere to medical treatment for a longer time and sometimes it is definitely imperative to operate early. The question as to treatment will depend largely upon the patient's nutrition and if we can build that up, we can do a great deal toward improving the condition of the ulcer. If we cannot, particularly if there is a stenosis associated with the ulcer, the quicker the case goes to the surgeon the better. On the other hand, we have no guarantee that if the same condition obtain which caused the ulcer, we may not have a recurrence even after operation.

## A CASE OF TWITCHING OF THE ORBICULARIS PALPEBRARUM SUCCESSFULLY TREATED WITH CALCIUM CHLORID.*

By THEO. C. BURNETT, M. D., Berkeley.

The twitching of the orbicularis muscle, generally described in text-books under the head of blepharospasm, is not a very uncommon affection; and yet I think I am not far wrong in saying that no one man comes in contact with a sufficient number of cases to furnish a series that would be satisfactory as statistics. As the value of a therapeutic measure depends upon the number of cases successfully treated, in such cases it becomes necessary for each individual to publish his results, that they may become available for the use of others. It is with this view that the following case is published, as well as to call the attention of ophthalmologists to a method of treatment that I think is not generally familiar.

Miss G., a student in the University of California, consulted me at the Students' Infirmary in October last (1909) for a persistent twitching of the lower eyelid on the left side which had lasted for months. She complained of it as being very annoying. On inspection a rythmical twitching of the lower segment of the orbicularis was plainly visible. She was examined very carefully for some error of refraction, but none was discovered. There was an exophoria of one diopter on the first examination, but it is probable that the phorometer was not level, as an examination a day or two later failed to reveal even this. She was put upon 0.3 gm. of calcium chlorid three times daily. She took the remedy for something like two weeks, and then was obliged to stop on account of its bad taste and irritant action. At this time she was decidedly better, but there was still some twitching. An effort was made by the writer to find some means for giving the salt in a more pleasant form, and meanwhile she was instructed to do nothing but wait. The improvement went on slowly, however, and the twitching ceased a few days afterward. There has been no return at the time of this writing (March, 1910), notwithstanding she has been through the severe strain of the mid-term examinations at the University. The continued improvement after she had ceased taking the calcium is accounted for by the fact that the salt is slowly absorbed and slowly excreted; its action is therefore probably cumulative, and lasted for some time after its administration had been stopped.

In 1881, Biedermann [1] described a rythmical twitching of the sartorius muscle of the frog when it was put in solutions of various salts. He described it as due to chemical stimulation. Later Loeb [2] repeated these experiments with the view of ascertaining, if possible, which ion was the cause of the stimulation. He also found it was possible to inhibit these contractions by adding a little calcium chlorid to the given solution, and suggested that our muscles do not contract rythmically because of the presence of the proper amount of calcium. Following this came the development of his theory of balanced solutions and ion-proteid compounds.

During the past year considerable work has been done on this subject from the clinical point of view. Stone [3] has reported a case of tetany successfully treated by calcium salts. McCallum and Voigtlin [4] have shown that the tetany following the removal of the parathyroids is prevented or relieved by the administration of calcium. They also show the parathyroids to have some influence on calcium metabolism. Cooke [5] throws some doubt upon the constancy of the findings of McCallum and Voigtlin, but still suggests there is an altered salt equilibrium in tetany. F. P. Kinnicut [6] has also recently published "A Clinical Study of the Therapeutic Value of the Calcium Salts in Gastric Tetany." Finally, Winternitz [7] concludes that calcium salts should be used therapeutically in tetany complicating tuberculosis. It is possible that some one has preceded me in applying these facts to blepharospasm, but I am not aware of it, for the reason that our means of reference in this particular are somewhat limited.

In view of the above facts, it seemed to the writer a perfectly natural procedure to administer calcium in Miss G's case, and the results justified it. In all the cases cited above, calcium was used in the form of the lactate, this salt being far less disagreeable than the chlorid. Theoretically the lactate ions should not enter into the combination, as the lactate of calcium is only sparingly soluble and slightly dissociable. As a matter of fact, however, the lactate is so readily oxidized that its effect in throwing the calcium out of commission is probably rendered nil by this means. It is unfortunate that the chlorid is so disagreeable, for it is the ideal salt to administer for these spasmodic affections; but if the lactate is found in practice to answer the purpose, there can certainly be no objection to its use. Miss G. willingly lent herself to experimentation and co-operated throughout, so that there was no difficulty in administering the chlorid until it began to interfere with her digestion.

The writer is well aware that "one swallow does not make a summer" and that one case is very little proof; in fact, these cases are known to recover spontaneously. Others can take up the subject who

* From the Students' Infirmary of the University of California

have more extended opportunities and prove or disprove its correctness. It is significant, however, that this case yielded promptly to treatment after months of persistence.

Since this paper was written another case has come under observation, with the difference, however, that there is a low grade hyperopia (corrected) and hyperemia of the conjunctiva. The usual methods of treatment caused the twitching to cease in a week or so, but it returned soon after treatment was discontinued. The case is now under observation as a control.

1 Biedermann, Sitzungberichte der Wienerb Akadamie, Vol. 82, '80, part 3.
2 Loeb, Jacques, Festschrift für Prof. Fick (Braunschweig, 1899), p. 101.
3 Stone, Harvey B., Jour. A. M. A., Vol. 52, '09, p. 1102.
4 McCallum and Voigtlin, Jour. Exp. Med., Vol. 11, '09, p. 118.
5 Cooke, Jean V., Jour. Exp. Med., Vol. 12, '10, p. 45.
6 Kinnieut, F. P., Am. Jour. Med. Sci., Vol. 138, '09, p. 1.
7 Winternitz, M. C., Johns Hopkins Bull., Vol. 20, '09, p. 265.

## INDICATIONS AND CONTRAINDICATIONS FOR THE USE OF SPINAL ANESTHESIA.*

ASA W. COLLINS, M. D., San Francisco.

After a careful review of the literature on spinal anesthesia published in the foreign as well as our American journals, I find it difficult to gather sufficient data to place before you a frank statement of the indications and contraindications for the use of this method of anesthesia. However, it will be necessary to quote the opinions of many men whose experience has warranted them being acknowledged as authorities on the subject. The conclusions will be my own ideas based upon an experience of over 2000 cases.

To illustrate the very wide difference of opinion existing as to the indications for the use of the spinal method, Sonnenberg and Rhen object to the use of it in children while Deetry, Gautier and Helsing have reported gratifying results, and in Gautier's wards the method was asked for by children in preference to general anesthesia. Columbani recommends its use in old and feeble subjects while others consider it a contraindication. Colombani and Rhen consider arteriosclerosis a contraindication and Sonnenberg does not. Dudley W. Buxton, anesthetist in the University College Hospital, London, says, "Children, patients over 65, syphilitics, septic patients, heart lesions, arteriosclerosis, nephritis, alcoholics and diabetics are excluded," while Klein states "It has a wide field in cases of degeneration of heart, in cachexia, anemia, affections of respiratory organs and nephritis." E. Hollander, a countryman of Klein, agrees with him and advocates the use of spinal anesthesia in elderly, decrepit patients, suppurative abdominal operations, tedious operations and in the debilitated and cachectic. H. Seiber quite agrees with Hollander and Klein. Chaput adduces as one of its merits that it is free from such after effects as albuminuria and vomiting. Schwartz, however, finds albuminuria more or less severe, and retention of urine not uncommon.

The opposite views expressed by these observers are given more to show how important it is that there should be some general rules accepted governing the use of spinal anesthesia, and an agreement as to what cases it is contraindicated. In naming the indications for the use of spinal anesthesia, as well as the contraindications, I will not take the time to theorize to any extent, or attempt to prove my claims at this time but simply state them for what they are worth based upon the statistics of the number of cases I have had under my observation.

The indications are: (1) In all operations below the diaphragm where a general or local anesthetic is contraindicated. (2) In the aged; and more especially the very old patients, I have had the most gratifying results and can report a case of Dr. B. A. Mardis of San Francisco, of strangulated hernia in a female of 89 years, who survived the operation without the least sign of physical or mental distress and made a very prompt recovery. There is no doubt but that this patient would have succumbed to a general anesthetic. (3) In intestinal obstruction with regurgitant vomiting, as S. A. H. Barton (London), calls particular attention to. The administration of a general anesthetic with such symptoms is very difficult and dangerous. (4) It is particularly useful when great shock is feared, such as amputation or disarticulation of hip joint. I have seen the sciatic nerve severed in a hip joint amputation, while observation was being taken of the pulse and respiration and the attendants failed to find any change in the condition of the patients during the entire operation. It should be used for amputations immediately following severe injuries. (5) In alcoholics and more especially those very common cases where they have sustained a fracture of femur necessitating a reclining position. The cases are usually ripe for a pneumonia and need only a general anesthesia to acquire it. (6) Operations upon the rectum necessitating its dilatation; we have in spinal anesthesia a most valuable aid to the operator as it causes a complete relaxation of the musculature of the rectum and the operator is permitted to work under most favorable conditions. (7) Patients who are fearful of being rendered unconscious and will not consent to the use of a general anesthetic. Most patients prefer not to be entirely oblivious to what is taking place and absolute loss of all sensation at once gives confidence, and these patients are usually content and unconcerned as a barber's customer. I might state here that the "twilight sleep" of Gauss, who recommends scopolamin in conjunction with spinal anesthesia, has helped ma-

* Read before the San Joaquin Valley Medical Society, March 8th, 1910.

terially to produce this happy medium between consciousness and unconsciousness, a loss of memory but retention of perception. (8) Nephritis and catheterization of ureters as spinal does not inhibit renal excretion. (9) Anemia where the hemoglobin is below 50%, and in cachexia. (10) Where bronchitis, phthisis and pulmonary disorders exist. (11) Diabetes, advanced arteriosclerosis, cardiac degeneration, and advanced valvular disease of the heart. Many people in this class suffer from surgical affections such as hemorrhoids, hernia and various pelvic disorders, who could not withstand a general anesthetic with safety but could be rendered much more comfortable and their life prolonged by an operation which could be done safely with spinal anesthesia. (12) Operations where it is not possible to secure an anesthetizer and the operator is compelled to administer his own anesthetic. This is valuable in country practice, as well as on board ship and in places where but one surgeon is available, spinal anesthesia would certainly be safer than to trust the ether or chloroform to an inexperienced person. In fact an anesthetist is unnecessary where spinal anesthesia is given as the operator administers the dose himself and a lone surgeon may perform many operations with this anesthetic, trusting the holding of instruments to the inexperienced, in preference to allowing them the responsibility of the ether cone. (13) Tedious and prolonged operations where a lengthy general anesthetic will cause anesthetic shock, the operation may be started with spinal anesthesia and if necessary, continued with ether. Where this is done my experience has been that it takes much less general anesthetic than where no spinal anesthesia has been given, and thus saves the patient an hour and a half of ether absorption and elimination. (14) Septic conditions tax the secreting function of the kidneys to such an extent that spinal anesthesia comes as a boon to these overworked organs. Many have thought sepsis to be a contraindication but I have never seen an infection of the meninges follow in any of these cases.

The contraindications to the use of spinal anesthesia are: (1) In any operation above the diaphragm I believe spinal anesthesia to be contraindicated in spite of the results proclaimed by enthusiasts. That operations can be performed without pain in high injections is no indication that the method is safer than a general or local anesthetic. Jonnesco and Jiano, of Bucharest, at the International Congress last year, reported a series of cases of stovain and strychnin combined, claiming that the use of strychnin lessens the danger in high operations, but their series of but a few hundred cases is not sufficient evidence to warrant a decision as to its safety. Donitz, Hesse, Griffenhagen, Sandberg, P. Steiner and Fedorov all record cases of complete failure of respiration. The use of spinal anesthesia above the first lumbar vertebra is not as safe as ether and I can report two deaths from its use due to failure of respiration. George Chiene reports 30 cases of ocular paralysis occurring and usually affecting the sixth nerve.

(2) Cases where it is desirous to render the patient unconscious as in a room crowded with visitors. The patient would be fully aware of what was going on, and might readily, from an unguarded remark by a nurse or spectator, learn considerably more about his condition than was desirable. I have found this consciousness of the patient to be a very undesirable element in operating under a spinal anesthesia and have at times been fearful of remarks that may be made relative to the case.

(3) A patient suffering from spinal trouble should not be subjected to spinal anesthesia if for no other reason than the future may find the nervous symptom persist or new symptoms develop which may be attributed to the puncture and the reason is therefore obvious.

(4) Children or young adults. By far the greatest number of failures in getting a good anesthesia are in the young, and the failures, 10% under 17 years of age, is too great to warrant the young in being good subjects for spinal anesthesia. On the contrary, they take a general anesthetic well and it is much more satisfactory.

(5) In cases where the asepsis necessary to safely place a needle into the subarachnoid space cannot be carried out. The aseptic technic should be perfect where spinal anesthesia is used.

(6) Nervous and hysterical patients are bad subjects for this method of anesthesia and invariably cause trouble on the table. It makes little difference whether the anesthesia is complete or not, these patients will complain of pain and as the loss of sensation of touch is not abolished, every touch of an instrument, sense of pressure, or pulling of the tissues is interpreted as one of extreme pain. The operator becomes impatient and discouraged and finally resorts to a general anesthetic much to the disgust of everybody concerned, and the anesthetic is declared to be unsuccessful. Had the surgeon been better informed of the condition of the patient and contraindications noted, the statistics of failures in these cases would be greatly decreased.

Unfortunately spinal anesthesia has fallen into the hands of a few sensationalists like Jonnesco who use the method promiscuously for reasons best known to themselves and their statistics being unreliable, spinal anesthesia has had to suffer in consequence, and its merits are thereby more slowly appreciated by many of our reliable and conservative surgeons. Although my experience has been with the use of tropococain principally, and by the method advocated by Dr. B. F. Alden, I believe that the use of stovain, novocain, or any of the other preparations successfully used, will not change the indications or contraindications for the use of the spinal method of anesthesia.

In conclusion I wish to state that sufficient evidence of the value of spinal anesthesia is at hand, to establish without argument, with statistics and reports, that spinal anesthesia has a proper place in surgery, and also to emphasize that it will neither displace the use of the general anesthetic, nor die out, but has come to stay and is a most valuable addition to the various methods of anesthesia already in use to-day.

## MEDICAL EXPERT TESTIMONY.

Continued from September Journal

## NECESSARY REFORMS GOVERNING MEDICAL EXPERT TESTIMONY.

By THOMAS J. ORBISON, M. D., Los Angeles.

It is of historical interest for us to know that the first expert evidence to be received by a court of law was from physicians. In the beginning it was given directly to the court. Not until 1665 was it given to a jury.

It was in a trial for witchcraft at Bury St. Edmunds that Dr. Browne, after viewing the respondents, gave the first expert medical testimony to a jury. He testified that they were witches. How prophetic of the kind of testimony the courts have had to guide them from that time to this. Blind Justice seems to have become blind as a result of ophthalmia neonatorum. And for expert medical testimony we can claim a congenital defect. With such a parentage, is it any wonder that courts of law have from time to time cast anathemata upon the medical expert—so called—and all his work?

Hear what courts have said: "I do not find in the books either of law or medicine that expert evidence has been much praised or welcomed." (Hon. Lucilius A. Emery, Justice of the Supreme Court of Maine and Professor of Medical Jurisprudence in the Medical School of Maine.) Is this expert testimony a monster, an illegitimate offspring of law and medicine, that it is thus discarded by both parents?

Again the court has said: "The experience of courts with the testimony of experts has not been such as to impress them with the conviction that the scope of such proofs should be extended. Such testimony is not desirable in any case when the jury can get along without it." And listen to this scathing arraignment. The court said: "Whenever they (physicians) have enlisted on the side of either party or of some favorite theory, the difficulties are greatly multiplied, and however honest or renowned for professional character the witnesses may be, such will be the conflict of their testimony in nine cases out of ten that it will be utterly unsafe for the jury or court to follow or adopt the conclusions of either side."

The United States Supreme Court has said: "Experience has shown that opposite opinions of persons professing to be experts may be obtained to *any* amount."

Lastly, in Best on Evidence (Sec. 514), it is said: "There can be no doubt that testimony is daily received in our courts as scientific evidence to which it is almost profanation to apply the term."

To these I could add many more words that have been wrung from long suffering courts all over the land. But the above will suffice to show us the common attitude of men of judicial minds toward the whole subject of medical expert testimony. And we cannot dispute these charges with any hope of making good our contention. Therefore let us accept them as true. If we do this we at once join hands with that distinguished company of great men who comprise our courts of law in bewailing the existence of this bane of law and medicine.

We know what has been done in the past; the problem before us is what can be done now to remedy these abuses? It is to answer the last question that we are come together to-night to confer with distinguished members of the legal profession. We cannot hope to answer it to-night or to-morrow or for many to-morrows. But we can make a beginning of discussing this great subject. And this discussion should not end until we have inaugurated measures which shall result in effectual legislation for the correction of these evils.

Let us do this because it is right to do it; because there is a great moral end to be reached. This is our opportunity.

John Wigmore has said: "Much has been declaimed about the partisanship and consequent untrustworthiness of the usual professional man as an expert witness. But it does not appear that the professional man is more biased or more corrupt than the ordinary lay witness. It is merely that his bias or pecuniary subserviency, when it is discovered, is in a more marked and unpleasant contrast with that ideal of impartiality and trustworthiness which is naturally associated with abstract scientific truth. There are serious difficulties to be met with by any other method—particularly the expense, the impracticability of classifying experts, the impropriety of interfering with the parties' voluntary choice and the difficulty of adopting a fixed rule for all classes of cases and all communities. Hitherto no one plan seems to have received any general support either in professional or in public opinion." (Wigmore on Evidence, Vol. I.)

In a letter to me last December, Mr. Wigmore writes as follows: "The subject which you have in hand is very important and I am glad to know that you take it so seriously and are about to give it such systematic attention. I will say that I personally see much value to be looked for in the Michigan system." (He then gives me a number of valuable references.) "The Michigan system" (he goes on to say) "will probably remove all the abuses of expert testimony. But nothing short of the reform of the Rules of Evidence and the spirit of the bar will remove the improprieties in the present method of questioning witnesses." Mr. Wigmore is Dean of the Law Department of the Northwestern University and an authority on evidence.

Of course, it is not for us physicians to correct the Rules of Evidence or to elevate the spirit of the bar until, perchance, we have shown the proper spirit of moral consciousness ourselves. Have we

any suggestions to make to our brothers of the law as to our fitness to really supply the kind of evidence they need (in medico-legal proceedings) to allow them to reach the truth in any case at law involving expert medical knowledge? Are we, as physicians, fit or unfit to attempt such testimony? A very serious question, that. Let us not hurry in answering it.

The weight of evidence seems to be against us. But does that mean that we are all unfit? Does it mean that present conditions render us unfit? If all are unfit, is there some method heretofore unused by which the fit will be selected and the conditions adverse to obtaining the truth from us on the witness-stand so changed that the competent physician will be allowed to give the truth that is in him, to the end that justice be done, rather than to the end that *his side* or *any* side win the verdict?

I wish to here record my deep conviction in the ability and moral correctness of the physicians of this city and my sureness of their fitness to render such testimony in medico-legal cases that will enable justice to be measured out to both sides; *provided,* and here lies the crux of the whole matter—provided conditions are right.

What are these conditions? One is, doubtless, that, as Dean Wigmore has said, the rules of evidence be reformed. Another I believe is the doing away with the hypothetical question. Another is that the expert shall be an officer of the court. His expenses should not be paid by either party to the suit, and if so paid it should be a misdemeanor. He should be allowed consultation with other members of his profession. To aid him in arriving at the truth, he should be allowed to examine at leisure the various individuals and exhibits involved, just as he would so examine them were he called in consultation. Also, he should be acquainted with the general trend of questions that are to be asked by counsel on both sides—this does not mean that he is to be shielded from heckling or cross-examination, but does mean that he shall be so prepared for the question at issue in its medical aspects as to give his best opinion as a physician.

On his part he should be careful to testify clearly as to his opinion, stating it to be in the nature of personal opinion, accurate knowledge, statistical knowledge—in fine, whether it is based upon absolute fact or opinion, stating his reasons. He should not be expected to testify as to responsibility in mental cases—all he should need to do would be to testify as to the diagnosis from the standpoint of an alienist and give his opinion as to the disease picture. The question of responsibility should rest without him.

These are but a few of the conditions surrounding the giving and taking of expert medical testimony that in my opinion would tend to secure justice to all parties involved. Of these I emphasize three:

First. Let the law correct the abuses surrounding the methods of taking testimony.

Second. Eliminate the question of recompense. This will secure an unbiased opinion and do away with the disgrace of having any number of experts ready to prove either side right.

Third. Elaborate some method by which the expert will be a court officer.

Dr. Chas. K. Mills of Philadelphia, eminent alienist and neurologist, has had probably more experience in the matter of testifying as an expert in his own line than any other physician in Philadelphia. Let us listen to what he has to say, after reviewing the systems of France and Germany: "I am opposed to official experts and to every law or proposed law which I have seen regarding expert testimony, and my first reason for this opposition is a basic one. The plans suggested "contravene one and all of the fundamental ideas of our system of criminal trial, to wit, that the judge alone is to be the judge of the law, that jury alone are to pass on the facts, and that the accused shall be allowed to produce any relevant and competent evidence in his own behalf" (Godkin).

That was said in 1900 previous to the latest laws that have been advocated. As to these latest laws I do not believe he could advance these objections, provided public opinion be so educated that it first recognize that expert testimony is necessary, that it is possible, of immense help to the court, and that conditions be so changed that it shall subserve the ends of justice rather than the purse of the expert and the winning of the case at all cost by the lawyers. And right here comes the question of how much public opinion has to do with the findings of the jury. We as physicians have an immense influence in the molding of public opinion.

This meeting to-night is to be the beginning of a campaign that will be State wide in the course of a year. Its object will be to—first, stimulate a class consciousness among lawyers and physicians that will force them to see to it that this disgrace to law and medicine shall be corrected in California. It must be built upon the broadest foundations possible, viz., upon Truth, Justice and Christian Morals. We cannot be too sure as to this matter. I am convinced that if what we propose is right it will be largely accepted. If, on the other hand, we allow anything of self-seeking or pecuniary or political advancement to enter into our motives—at once will Truth fly away and likewise the success of our undertaking. Secondly—When we have gone out and created a sound public opinion it will be our duty to frame a suitable law and present it to the people of this state and their respresentatives at Sacramento.

That law should aim to correct the evils of the present system; it should suggest the methods of securing the men who are fit to represent the medical profession in a court of law. It should arm the expert with the shield of incorruptibility and the sword of public opinion.

On its part, it would seem to me advisable the law should educate its exponents to a consciousness of a moral responsibility to seek the *truth* as it may be in the medical expert and not to try to so mix him up while in a difficult and defenseless position that his answers appear to make him ridiculous to the end that the lawyer's client may escape in the fog. It would seem to me that the court should have jurisdiction over the expert as an officer of the court.

In conclusion let me say this: The practice of scientific medicine is being purified by adversity and has been from its inception. The law is going to be purified and revivified within the next decade. Within that time many old scandals will have been done away with. For one thing, "the law's delays"; for another, expert medical testimony. Andrew D. White, former President of Cornell University and Ambassador to Germany, has made a study of the criminal conditions of various countries. There are now about eight thousand homicides a year in the United States. In Canada there are but three murders per million. Canada punishes with death seven-eighths of the men convicted of murder. In the United States one out of seventy-four is executed, and the average life sentence figures down to seven years. There was not a single lynching in the whole British Empire during 1909. In the United States there were eighty-seven. What is his explanation? He says that our criminal procedure, *especially expert testimony* and the ease of appeal, is the explanation.

It is safer to kill a man in the United States than to kill a deer in the forest. (Collier's, Vol. XLIV, No. 24, p. 17 and 18.)

Another scandal to disappear will be that connected with medical expert testimony. It will only come as a result of endeavor. It seems to me it is high time that we begin doing our part. It is up to us.

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## MEDICAL EXPERT TESTIMONY.*

By ANDREW STEWART LOBINGIER, A. B., M. D., Los Angeles.

A strong sentiment has developed in this country in recent years calling for reforms in the appointment of the medical expert witness. The abuses out of which this demand has arisen are partly attributable to the Bar and partly to the medical profession. They are more directly due to an astonishing laxity in the regulations of the Judiciary, whereby such matters might be, but are not, properly controlled.

For more than a generation the testimony of the medical expert has been a purchasable commodity. From a factor whose learning and experience should prove a distinct assistance to the court in determining the adjudication of technical difficulties, the medical expert has, by virtue of the false position he has been brought to occupy, become an object of ridicule and contempt. Why is this true? There are several very obvious reasons:

1. By the present method of choosing the expert witness he is at once the victim of bias and becomes an advocate for the side that employs and pays him.

2. Experts are not selected chiefly on account of any fitness or training in the subject on which testimony is to be offered, but as to whether they shall prove to be strong partisans and clever defenders of the side which employs them.

3. Such a system of selecting the expert, and the discourteous methods of counsel in cross-examination, creates a genuine disgust and aversion among modest and scholarly professional men for appearance on the witness stand. The result is that the best talent is not obtainable and the choice must lie amongst inferior minds, if not, as frequently is seen, amongst actual pretenders and charlatans.

It is also manifest that the number of so-called experts, who receive their compensation at their own appraisement from the side employing them, is limited only by the capacity of the purse of the employer. This fact and the diametrically opposite testimony of professional men of equal standing, not uncommonly converts a trial into a travesty, from which neither court, counsel nor jury can extricate it.

Other evils complicate and prolong the action and prove subversive of the ends of justice. One of these is the lengthy and involved "hypothetical question," the answer to which has been prearranged before the question is asked. Another is the custom of opposing counsel to anger, disconcert and unhorse the witness by every artifice or coarse and offensive aggression which may be employed.

No physician or surgeon who values his self-respect or cherishes the dignity which years of learning, experience and culture have brought to him, will voluntarily subject himself to such an ordeal of abuse for any compensation which can be named.

The expert witness should not only be a scholar in the special learning he is called to reveal to the court, but he should be sedulously shielded and graciously encouraged, so that his testimony may be couched in clear language and be most informing. Is not that the object for which he is called? Are not the courts the forums of justice? If so, then we must see to it that conditions are permitted to prevail which shall keep inviolate the plain and obvious facts of science and not enshroud their simple relating in the befogging and boisterous controversies of partisans.

The conditions which should surround the medical expert must be established by the court and bar, and by them be consistently maintained. If the legislature has not properly provided for this espionage so that the ends of justice may be at all times insured, then it is clearly the province of such distinguished bodies as yours to effect the needed reform.

No matter what the legislation or the attitude of the law may be, it must be remembered that the laws of medical science are not affected. Only men

* Read by invitation before the Los Angeles Bar Association at the Seventeenth Semi-Annual Dinner given to the Justices of the Supreme Court of California, October 15, 1910.

of scholarship and repose are qualified to properly interpret them.

If the vice of prejudice is permitted to dominate the selection of the medical expert, then a prejudiced and superficial opinion need not surprise us. Nothing can rescue the expert from this obliquity, whose measure of integrity is the price paid for his time in court. Such a witness invites contempt; he inspires abuse, he arouses the belligerency of counsel and incites to disconcerting and embarrassing scenes, utterly unworthy of the respect due to members of honorable professions.

I have such knowledge of the truth of these observations that, were it not invidious, I could cite in proof of them the names of many of the most distinguished surgeons and physicians in this country who refuse to appear in court because they are unwilling to be made ridiculous by some smart, bumptious attorney desperately bent on winning his case. And I submit to you that these gentlemen are in nowise lacking in a proper sense of humor.

It should not be taken from these remarks that the writer is oblivious to the many cases of record where the medical expert has been wholly competent, honest and disingenuous, and where counsel and court have treated him with proper dignity and respect. Such ideal conditions prevail where the factors are ideal. That they are refreshing exceptions, however, to a limp and decadent practice, is only too well known to every man of experience.

What can be done, then, to insure a proper selection of the medical expert and the best and most informing testimony from him?

In Germany the appointment is made by the court and the expert is required to appear whenever called by the judge. There is a penalty attached for disregarding the summons and the commonwealth provides a moderate fixed compensation together with expenses for appearance and testimony in court. So that the medical expert in Germany may be regarded as an officer of the court. And the same relation exists in most of all the other Continental countries. It is regarded an honor and distinction to be thus designated and there is every courtesy and dignity attendant on the office which its responsibilities should entitle it to. But the utmost care is observed in the choice of physicians and surgeons as official experts, that only men of known special scholarship and highest training and personal integrity are selected.

In England and her colonial possessions and in the United States to a large extent, the expert is selected by counsel and the court is not consulted.

Last year a bill drafted by the New York State Bar Association and the New York State Medical Society and New York Academy of Medicine, was introduced into the legislature of the State of New York, which provided that the Justices of the Supreme Court assigned to the Appellate Division should designate at least ten, and not more than sixty, qualified physicians and surgeons in each Judicial District who could be called as medical expert witnesses by the court or by any party to a civil or criminal action, and who, when so called should testify and be subject to examination and cross-examination as other witnesses are; that any designation might at any time be revoked without notice or cause shown, and any vacancy might at any time be filled; that when so directed by the trial court, witnesses so called should receive for their services and attendance such sums as the presiding judge should allow, to be at once paid by the fiscal officer of the county in which the trial is had, and that the act should not be construed as limiting the right of parties to call other expert witnesses as heretofore. The bill passed in the Assembly but failed in the Senate. It will be presented to the next legislature and it is regarded by the bench and bar of many of the states as a long step toward the solution of a vexed and important problem." (Hon. A. T. Clearwater, June '09 North American Review.)

In many of our cities an understanding exists between the bench and the medical profession that certain men known to be distinguished in a special department of practice shall be regarded as eligible experts and from a list of these a choice can be properly made. This has not been made mandatory by statutory enactment, but it has been found to be a feasible solution of many difficulties and has greatly facilitated the trial of insanity and other cases where special technical knowledge is demanded of the witness.

Were it not for the Sixth Amendment to the Constitution of the United States and the State's Bill of Rights, granting the accused in criminal actions the privilege of facing the witnesses against him, the taking of medical expert testimony in criminal cases could be greatly expedited by direct report of the findings in a case to the court and jury, or to the court alone, were that admissible. It would do away with the tedium of prolonged controversy over unessential technicalities. It might deprive garrulous attorneys and presuming medical men of much public notice which they could not otherwise obtain; but it would contribute immeasurably to the dignity of our courts.

It may be accepted from the opinions which have been repeatedly given by jurists that the "hypothetical question" is the proper vehicle of supposed fact by which the expert's opinion may be conveyed to the jury. But however much it may remain in favor with the court and bar, the layman and the medical expert himself still look upon its practical working out as little short of a farce. If the bar feels itself competent to so abridge the text of these questions as to make them less ludicrously absurd and make the anticipated answer more logical, a long step will have been taken in wholesome reform.

Neither the practice of law nor the practice of medicine need ever depart far from the realms of common sense. It is quite unnecessary that either profession should adhere to rules of practice which persistently call down contemptuous ridicule. Can any of us deny that such has been the universal verdict of the people in certain notable criminal trials in this country in the last decade?

It would seem that reform of these unhappy conditions would be most cordially fostered by the bar, but I was recently somewhat puzzled, in a notable contribution on this subject from the pen of one of America's most distinguished jurists, to read these words: "It is universally admitted that so grave a

defect in the administration of justice should be remedied, and it is conceded that the defect is of such long standing that reform will be slow and difficult, largely because of the inertia of the bar. I regret to say that I have found a greater degree of enthusiasm for better methods among physicians than among lawyers." (Judge A. T. Clearwater, loc. cit.)

I have faith that what Judge Clearwater designates "the inertia of the bar" may be merely an expression of the very proper dignity and conservatism which has ever hedged about proceeding of the law, and that when the bar becomes fully awakened to the proportions and universality of these abuses it will rise in its power and overthrow the men and measures which perpetuate them. Certain it is that if we are to improve the status quo of the medical expert, we shall scarcely succeed by poking fun at the illiteracy or inconsistencies of one whose very density makes him impervious to scorn. It would seem the better way would be to establish standards of fitness which should govern the selection of the medical expert, and that this selection should be delegated to the judges of the court.

The evidences of liberal learning, high ethical character, scholarship and extended training in a special branch of medicine or surgery, and the reputation as a studious and conscientious practitioner, should be the distinguishing elements in the medical expert. Such men may be found in every populous community in North America, and conspicuously so in cities of a population of one hundred thousand and over.

In any measure looking to genuine reform, both as to the selection of experts and the taking of testimony, the bar will find a very cordial co-operation from the representative men in the medical profession. To most of us the office of medical expert is now a most distasteful ordeal, to be shunned wherever possible. If you wish the best that we can give you, you must win our confidence, treat us graciously and as far as possible relieve us of unnecessary embarrassment. A very great and sane jurist has recently said: "Scientific opinion to be of controlling value can be given only under conditions of mental repose. The haggling, sharp interruptions, uncalled-for wit, insolent comment and other too common features of important civil and criminal trials, are not such conditions. While they put some witnesses on their mettle, they throw the majority and the more competent into a state of mind in which all sorts of stupidities may be expected."

We have a right to require the highest learning and qualifications from not only the medical expert, but it has seemed to me that something exceptional in cleverness and versatility may reasonably be expected of the barrister who interrogates him. One need not attend many trials where experts appear to discover what a hurricane of chaff is sometimes—ofttimes—raised, in the winnowing of a few grains of truth. It is an ancient subterfuge and is not limited to legal procedure. But it deceives no one so much as this species of counsel himself, and is an intense weariness to a patient witness, court and jury.

It is therefore clear that here again is afforded an opportunity for a distinct reform, to the end that in an examination and cross-examination of an expert witness the strictest brevity consistent with securing a clear statement of scientific truth should be observed. And this must not be construed as leaning favorably to categorical answers when a word or two of explanation or illustration would be invaluable. The court should always secure to the expert witness the privilege of making clear a technical point to the jury, by any regular and accepted method employed in modern scientific demonstration. It is not only a prerogative of the witness, it is a distinct duty he owes to the court and to the jury.

Nothing can be more bewildering in the decorum of a court proceeding than the petty haggling or the presumptuous bravado with which a lawyer, conscious of temporary advantage over his adversary, seeks to make a victim of the expert witness sitting helpless before him. I have been present, sometimes as spectator and sometimes as witness, on a number of these edifying occasions and I have marveled at the *sangfroid* of the honorable court as the advocate, fierce, red-faced, in mock choleric heroics, paced threateningly up and down before the witness, terrifying as an "army mighty with banners."

It is indeed a most impressive spectacle, and one cannot doubt, may contribute somewhat to relieve the tedium and stagnant atmosphere of a drowsy court-room. One hesitates therefore to be rudely disillusioned of such a vision, but it would appear to be a quite unnecessary and superfluous vocal disturbance, and contributes so feebly to the scientific competency of the expert, and to the gracious ends of justice, as to lead one to the inquiry, "Could it really by any peradventure be dispensed with?"

Again we have been greatly instructed by the spectacle of skin and cancer specialists, obstetricians, rhinologists and general practitioners, with a lifetime experience comprehending possibly six cases, taking the stand as expert alienists to pass on the sanity of a homicide. These gentlemen can, and usually do, qualify as experts. They are to be found graciously blessing every community with their marvelous versatility; for they pose as "specialists" in any department of medical science which conveniently calls them to service. Aside from their readiness to illuminate the mind of counsel groping in the dark, they make equally admirable expert witnesses whether called by the defense or the prosecution. Sometimes on occasion it is said, through some *lapsus memoriae,* representatives of this cult have been known to testify with equal credibility on each side, usually, however, with a respectable interval of time intervening between appearances. Or having been called by the state, and, on account of its depleted exchequer not becoming available, they have proved a most serviceable and valuable succor to a struggling defense. Thus have we seen these valiant exponents of a great art and science distinguish themselves—and us.

A prominent member of the bar once said to me: "You of course know Dr. So and So." "Very well," said I. "Do you know," said he, "he makes a capital witness?" "Yes," I answered, "he is a very brave man." "That is it," said he, "you cannot rattle him. He answers 'Yes' and 'No' and sits as

stolid as a bronze statue in the presence of a tempest of grilling and abuse."

This genus of the species Medical Expert is sometimes as celebrated for his "smartness" and repartee as his brother is for stolidity. For every Roland from the castigating tongue of counsel he returns a stinging Oliver. Such coruscating rhetoric sometimes enlivens a sultry court-room; but how much more does it create a sense of pity and disgust in the minds of sincere men, whose standards of ethics and of learning lift them above such coarse usage. It seems quite manifest that the time has come for members of the bar and medical profession to undertake a concerted movement toward reform. Efforts have been made in various states, as Maine, Massachusetts, Pennsylvania, Indiana and New York, to secure legislation which shall define the qualifications and appointment of the expert, but as yet the best hopes have failed of fruition.

While the act which passed the New York Assembly has very many admirable features in it, it lacks the broad spirit and dignity of the German system. I have doubt if we could improve on the conditions which govern the medical expert in the German Empire, and hence, with certain slight modifications which would make it adaptable to American practice, I believe we cannot do better than endorse its adoption here. Its adoption in American courts would instantly divest the medical expert of the obloquy which is the disgust of every decent citizen, and clothe him with the dignity and credit which is the deserved station of every scientific man.

Recently on motion of the writer, the Los Angeles Medical Society voted to request the council of the association to appoint a committee, to confer with a committee of the Bar Association, looking to legislation on this subject which shall correct some, at least, of the evils which now render practically worthless much that passes in this state as medical expert testimony. This committee has been appointed and it is sincerely hoped that much good may come from its deliberations jointly with one from your honorable body.

Why should conditions longer prevail, in this commonwealth at least, if the intelligent representatives of the two great professions chiefly concerned, and who are unanimous in their condemnation of the present wretched status, will unite in one powerful endorsement of legislation which shall effectually remedy this evil?

I have faith that the time never was more auspicious, the sentiment never more deeply grounded, and the authority of a great body such as yours never so potent for the execution of this reform, as at the present hour.

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Dr. Thos. J. Orbison, Sec'y Com.
Los Angeles County Medical Association,
Los Angeles, Cal.

My Dear Doctor: Much to my regret, I find it impossible to be with you on the night of March 18th. I just received your notice and am leaving this evening for two weeks' absence from the state, on the advice of a member of your Association; so you see my absence is unavoidable.

I had very much hoped to be with you on this occasion and express to you some ideas which have come to me from my experience in the use of medical expert testimony, and to suggest, if I might, in my humble judgment, what I consider to be the proper and legitimate field for such testimony.

I think the feature which has embarrassed the physicians in this field is that of partisanship on one side or the other of a case. The physician's expert testimony is, and of necessity must be, largely judicial. It is the making up of a verdict by use of the facts which come under his observation. I have learned in my experience in life that no man is big enough and broad enough to be on one side of a case and at the same time to be a competent, fair and impartial judge of its merits.

The man whom we oftenest deceive and mislead is the man inside our own suit of clothes.

While it is true that doctors and lawyers and all others of mankind have differences and will differ in their conclusions, still that element of difference will be largely eliminated on the subject in question if the physician will approach the subject as a judge owing allegiance to neither side. It has been a matter of much concern, I know, to the medical profession to find in a criminal trial ten or fifteen eminent physicians arrayed on one side of a case and the same number equally eminent and able arrayed on the other, and apparently the physicians of the plaintiff swearing to a different medical opinion from those arrayed on the side of the defendant. As a matter of fact, however, that which in such an instance appears to be a difference of opinion among physicians is not such in reality. By skillful manipulation of questions—hypothetical questions usually—the elimination by one side of certain features which are included in the question given to the other side, testimony of the medical witnesses is made to appear at variance with that of the physicians on the other side, when, as a matter of fact, they do not differ at all materially.

However, to the popular mind such an exhibition cannot tend but to embarrass your profession. I think in the main if you will eliminate partisanship you will have solved the question. It will then be a matter of skill and learning absolutely.

I might call your attention to the fact that the usual issue about which physicians differ in court is on a question of insanity, which, as you know, is one extending over so great a stretch of mental territory that differences of opinion are very easy. "All the world except me and thee and thou art just a little" is not so wild a statement in fact as one might suspect.

To make a practical suggestion, I would suggest that the physicians work for a measure in our laws which will require the court to submit medical questions to a board of physicians whose determination shall be final on those questions, and that they shall be employed and selected by the court and never appear as partisans. Until that time comes perhaps you can, by popular agitation, create a sentiment that the court shall select the medical experts and that you will not be employed on either side in such a controversy.

There are many other features of this subject which I would be glad to discuss with you and hope at some future time I may have an opportunity. These ideas are jotted down roughly and hurriedly with the idea of suggesting but the one thought, *elimination of partisanship.*

Very respectfully yours,

J. D. FREDERICKS,
District Attorney Los Angeles County.

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Los Angeles, Cal., March 18, 1910.

Dr. A. S. Lobingier,
Chairman of Committee on Medico-Legal Expert Testimony, of the County Medical Association, Los Angeles.

My Dear Sir: Before I received notice that the proposed discussion of medico-legal expert testimony at a meeting of your society would occur this evening, I had made an engagement which calls me out of the city. This deprives me of the pleasure of being present at your meeting.

It is a principle common to all reforms that they must be preceded by a realization that the existing conditions are in some way wrong or defective. With respect to medical expert testimony, it is now well understood, in both the medical and the legal professions, that the present methods of selecting expert witnesses, and the present methods of obtaining their opinions as such experts, are very unsatisfactory.

They are unsatisfactory because they are not well adapted for promoting the objects for which legal investigations are instituted. Those principal objects, it scarcely seems necessary to say, are the ascertainment of truth, and the application of truth toward the ends of justice.

It is manifest to all who have given the subject close attention, that professional men, in giving their opinions on the subjects upon which they have exceptional knowledge and experience, should be as completely without bias or prejudice when they give their opinions in a court of justice, as they would be in applying or stating those opinions in consultation or practice in their own offices or at the bedside of a patient. In matters of opinion such as those here referred to, a court does not want the arguments of a partisan. What the court really needs is the special finding of a professional referee or judge chosen to give his opinion upon the matter, because it is supposed that in no other way can the truth be so well ascertained in that particular instance. Therefore, if a so-called expert is known to have been summoned and paid exclusively by one party to a case in court, that fact has a tendency to detract from the confidence with which his evidence is received; and in its nature, also has a tendency to create such bias in the mind of the witness that, either consciously or unconsciously, he becomes less able to testify impartially with respect to the matter upon which his opinion is to be given.

It is gratifying to all who are interested in the right administration of justice in our courts, that special attention is now being given to obtaining changes in our laws with respect to this subject. By united action on the part of the medical societies and the bar associations of the state, public opinion may be roused and legislative action may be obtained, all moving in the right direction.

I trust that some new legislation, similar to that which has been proposed in the State of New York (but which, so far as I know, has not yet been adopted), will be prepared during the current year, so that it may be submitted to the next session of the California legislature. I am sure that in actively interesting yourselves in this question you are devoting your attention to a very important interest, not only of your profession, but of the people of the state.

With great regret that I cannot be present at your meeting this evening, I am,

Sincerely yours,

N. P. CONREY.

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## BOVINE TUBERCULIN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.*

By WILLIAM C. VOORSANGER, M. D., San Francisco.

This paper is presented in the nature of a preliminary report, since the number of cases reported as treated with bovine tuberculin might be considered too small upon which to base definite conclusions.

In the *Lancet* of February 15, 1908, Nathan Raw reported successful results in eighteen cases of pulmonary tuberculosis treated with bovine tuberculin and a hundred and four case of surgical tuberculosis treated with the human form. Before the tuberculosis congress, held in Washington in October, 1908, he again reported glowing results in twenty-seven cases (no doubt nine added to the first eighteen) of pulmonary tuberculosis treated with the bovine form of tuberculin. Twenty-three of his cases were in the early stages and four well advanced, two of the latter even becoming apparently well with disappearance of all physical signs of the disease. In conclusion, Raw states: "From this series of cases of phthisis pulmonalis, I am convinced beyond the shadow of a doubt, that the tuberculin prepared from bovine sources has a most marked and curative effect in tuberculous affections of the lungs. . . . . At present, I am quite certain that, under suitable conditions, every early case of phthisis should be inoculated with bovine tuberculin."

I was so impressed with Raw's results and his

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

enthusiastic statements, that I immediately began treating my cases of pulmonary tuberculosis with bovine tuberculin. Before presenting these results, let us ascertain if there is a rational working theory to justify a statement that this form of tuberculin has greater curative power than any other. Unfortunately, we are again working in the realm of empiricism, as we have in the past done with all tuberculins. We are again face to face with the dogmatic statement of Koch, made in 1901, and emphasized in 1908, as to the dissimilarity of human and bovine tuberculosis. The best scientists of all countries have challenged this statement and an immense amount of scientific investigation has been the result of the argument. Out of these investigations, by such men as Raw, Woodhead, Aufrecht, Ravenel, Arloing and Courmont, Wasserman and a score of others, I firmly believe came the inspiration to use bovine tuberculin as a curative agent. In 1908, Pochin reported some interesting observations by which he tried to ascertain whether the action of opsonins in bovine blood was the same with regard to tubercle bacilli of both human and bovine strain or whether differences did exist, which would indicate a distinction between bacilli with regard to their susceptibility to the action of opsonins and, therefore, a difference in the resistance in the animal to infection by the bacilli of different strains. He found that marked differences did exist. Out of such experiments as these can be evolved not a theory, but an hypothesis, that if we accept as true that pulmonary tuberculosis is caused by the bacillus of the typus humanus, and gland, bone, joint and other forms of surgical tuberculosis by the typus bovinus, the opposite strain should always be used in treatment; that is, human tuberculin in the bovine form of tuberculosis,—bovine tuberculin in the human form. I grant you that we are yet far from a working theory, which will solve the question of tuberculin immunity. There is no unanimity of opinion—each one is experimenting—each experimenter believes his methods the most satisfactory.

In a recent publication, I collected the various tuberculins on the market, to the number of seventy. No doubt, this number has since been augmented, and each tuberculin has one or more successful champions, who report successful cases. Spengler, an able scientist, will claim in his I. K. or Immun Korper (body) almost the tuberculin millennium, and still German literature abounds in reports of failures by those who have used it. Therefore, until the question of tuberculin immunity is solved, and until we really know what the real action of tuberculin is, we can not altogether condemn any investigator's method as futile. We should be good skeptics but reluctant scoffers. We should not forget that in tuberculin we have a toxin potent for good or evil effects. When we work with an antitoxin, as in diphtheria, we are injecting a substance which contains antibodies, call them agglutinins, precipitins, or by what name or numbers of names you will; there are many of them which have crept into the nomenclature of serum therapy, just so often as some investigator enunciated a supposedly new theory. Now, when we work with a toxin, such as tuberculin, our aim is to rouse to action the natural defenses, already in the body—which we will simply call antibodies, so as to avoid confusion. As I worked along with bovine tuberculin, and waded through the almost endless and ever continuous literature, upon the general subject of immunity, and tuberculin immunity in particular, it occurred to me that a tentative theory might be evolved based upon a small but rather successful series of results. It does seem possible that if there is more curative power in bovine than in other forms of tuberculin, it can only occur through the production of a greater number of antibodies. In a discussion of my results, I believe that I can demonstrate a slight justification for making this statement.

Up to date, I have treated twenty-eight cases of pulmonary tuberculosis with bovine tuberculin, using at first the B. F. and afterwards the T. R., believing the latter the most efficacious, since the entire bacillus is used in its production. These twenty-eight cases were picked from a material of over one hundred cases of tuberculosis occurring in clinical and private practice. I have drawn up a tabulated report of these cases which shows that twelve are incipient, thirteen moderately advanced and three far advanced. You will notice that the classification shows as many moderately advanced as incipient cases. I believe, that we are prone to call a case of tuberculosis incipient when in reality the lesion is quite well advanced. Flick is a little too conservative, when he states that the incipient stage of the disease is the stage before symptoms manifest themselves. If this were true incipient cases could only be discovered by accident. But any one who has worked much in the field of pulmonary tuberculosis will agree with me that no case where physical signs are fairly manifest, can in truth be called incipient. The X-Ray has proven this beyond a question of doubt. The three far advanced cases were treated by way of experimentation to ascertain if any kind of result could be obtained with them. One was slightly improved; two died. This shows again that any form of tuberculin, to be effective, must find a responsive medium. Where resistance is low, antibodies will not be formed. If the organism has lost its power to react, then the use of tuberculin will prove inefficacious. It should not be used for this reason in advanced cases.

Of incipient cases, nine were right apex involvement; three apex. Of the moderately advanced, in five cases both apices were involved; in five cases part of one or both upper lobes; in one case, right upper lobe and left apex; in one case, upper lobes of both lungs, and in one case middle lobe of right lung. The number of injections varies and demonstrates some interesting facts. They range from twenty-six to fifty-eight; the best results were obtained with the fewest injections. Those receiving a large number of injections where improvement did not begin fairly early showed but slight or no improvement. The period of treatment ranged from approximately two and one-half months to one year. The most brilliant result was obtained in a man, aged thirty-six years, with lesions of both apices who

| Patient. | Diagnosis. | No. of Injections. | Period of Treatment. | Reaction. | Result. |
|---|---|---|---|---|---|
| S. M. 38 yrs. | Incip. rt. apex bacilli pres. | 30 | Aug 24-09 Feb. 1-10 | None | Apparently cured. Gained 10 pounds. |
| B. L. 25 yrs. | Incip. rt. apex Bacilli not present. | 27 | April 17-09 Aug. 15-09 | None | Apparently cured. Gained 8 pounds. |
| H. K. 24 yrs. | Mod. adv. middle lobe rt. lung bacilli pres. | 38 | Aug. 4-09 Jan. 25-10 | None | Apparently cured. Gained 18 pounds. |
| M. K. 27 yrs. | Far advanced bacilli pres. | 58 | April 9-09 Nov. 9-09 | June 2-09 Aug. 15-09 Oct. 4-09 | Died. |
| M. H. 36 yrs. | Mod. adv. both apices bacilli pres. | 40 | Nov. 15-09 April 1 10 | None | Apparently cured. Gained 26 pounds. |
| L. L. G. 30 yrs. | Incip. rt. apex bacilli pres. | 51 | May 12-09 Jan. 16-10 | May 25-09 | Arrested. Gained 10 pounds. |
| R. G. 45 yrs. | Mod. adv. rt. upper lobe—L. apex bacilli pres. | 12 | March 12-10 April 15-10 | None | Improving. Gained 8 pounds. Still under treatment. |
| R. E. D. 38 yrs. | Mod. adv. rt. upper lobe bacilli pres. | 26 | June 18-09 Sept. 15-09 | None | Improved. Gained 9 pounds. Ceased treatment. |
| F. C. 51 yrs. | Incip. rt. apex bacilli pres. | 32 | Aug. 25-09 Feb. 1-10 | None | Arrested. Gained 10 pounds. |
| W. G. B. 25 yrs. | Mod. adv. rt. upper lobe bacilli pres. | 41 | Jan. 21-09 Aug. 2-09 | None | No improvement. Treatment suspended. |
| J. A. 49 yrs. | Incip. rt. apex bacilli present. | 44 | May 2-09 Dec. 6-09 | None | Apparently cured. Gained 18 pounds. |
| B. L. 23 yrs. | Mod. adv. rt. upper lobe bacilli present. | 29 | Dec. 5-09 April 15-10 | None | Arrested. Gained 12 pounds. |
| A. F. 27 yrs. | Incip. rt. apex bacilli pres. | 8 | March 15-10 April 19-10 | None | Improved. Gained 6 pounds. Still under treatment. |
| J. F. 30 yrs. | Incip. rt. apex bacilli pres. | 8 | March 15-10 April 19-10 | None | Improved. Gained 5 pounds. Still under treatment. |
| V. N. 43 yrs. | Mod. adv. both apices bacilli pres. | 28 | Dec. 30-09 April 15-10 | None | Arrested. Gained 18 pounds. |
| J. M. 19 yrs. | Incip. rt. apex—bacilli pres. | 29 | June 28-09 Sept. 3-09 | None | Apparently cured. Gained 10 pounds. |
| W. P. 36 yrs. | Mod. adv. upper lobe rt. lung—bacilli pres. | 18 | Sept. 16-09 Nov. 22-09 | Slight Nov. 1-09 | Slightly improved. Sent to Alta. |

| | | | | | |
|---|---|---|---|---|---|
| E. L. | | | | | |
| 46 yrs. | Mod. adv. upper lobe rt. lung L. apex—bacilli present. | 31 | May 6-09<br>Sept. 16-09 | None | No improvement. Left town. |
| J. S. | | | | | |
| 23 yrs. | Mod. adv. both apices—bacilli present. | 23 | May 6-09<br>Sept. 16-09 | None | Apparently cured. Gained 19 pounds. |
| A. K. | | | | | |
| 31 yrs. | Incip. rt. apex bacilli present. | 27 | May 6-09<br>Oct. 7-09 | None | Apparently cured. Gained 20 pounds. |
| C. A. E. | | | | | |
| 48 yrs. | Incip. left apex bacilli not present. | 51 | May 6-09<br>Jan. 6-10 | None | Apparently cured. Gained 5 pounds. |
| L. M. | | | | | |
| 20 yrs. | Incip. left apex bacilli present. | 19 | Nov. 18-09<br>Jan. 20-10 | None | Improved. Gained 5 pounds. Left town. |
| B. G. | | | | | |
| 27 yrs. | Mod. adv. upper lobes both lungs bacilli pres. | 53 | July 8-09<br>Feb. 17-10 | Nov. 27-09 | No improvement. Lost 6 pounds. |
| K. P. | | | | | |
| 29 yrs. | Incipient left apex bacilli pres. | 26 | Jan. 13-10<br>Feb. 16-10 | None | Improving. Gained 5 pounds. Still under treatment. |
| P. V. S. | | | | | |
| 40 yrs. | Mod. adv. both apices bacilli pres. | 44 | June 5-09<br>Feb. 1-10 | None | Arrested. Gained 10 pounds. |
| M. R. | | | | | |
| 40 yrs. | Far adv. bacilli pres. | 20 | May 5-09<br>Aug. 1-09 | None | Slightly improved. |
| H. S. | | | | | |
| 38 yrs. | Mod. adv. both apices bacilli not present. | 28 | April 15-09<br>Jan. 20-10 | None | Arrested. Gained 14 pounds. |
| J. N. | | | | | |
| 41 yrs. | Far adv. bacilli pres. | 12 | March 20-09<br>June 25-09 | April 2-09<br>May 15-09 | Died. |

received in all but forty injections, during a period of four and one-half months. After two months, all symptoms disappeared, including cough and sputum and he had gained twenty pounds in weight. As a precaution, I continued giving the injections for two and one-half months longer, or until April 1, 1910, when I discharged him as apparently cured and was gratified to hear him state that he never felt better in his life. His total gain of weight was twenty-six pounds. Needless to say, his case was verified by the finding of tubercle bacilli in the sputum.

During the treatment of this series of cases, I had reactions in five cases. In two very slight, in three, quite pronounced. Observers are agreed that we should avoid reactions and if our cases are chosen properly, and if one starts with a low enough dose, and increases very gradually, there is no question but what reactions can be avoided. It did seem to me that where I obtained reactions they were rather more violent than those I had seen in use of human tuberculin.

The preparation and dosage of bovine tuberculin is important as it is with all forms of tuberculin. I am now using the T. R., and have it prepared according to prescription at the Cutter Laboratory. I start with 0.1 cc. of 0.0001 solution or a 1/50000 mg. of solid substance. This is always my minimum dose. I have no maximum dose, since I do not believe that it is yet proven that there is an actual condition of tuberculin immunity and I aim only to produce a tuberculin tolerance. The latter varies naturally in different patients, and the concluding dose is based upon the patient's condition and his tolerance. When symptoms have disappeared, I either stop tuberculin altogether or keep the patient for a long period upon the concluding dose at certain extended intervals, the latter ranging from two to four weeks. My maximum dose has seldom been over one 0.1 mg. or 0.2 mg. of solid substance.

The intervals of doses must also be a matter of the physician's judgment. I have, in the beginning doses given tuberculin as often as every alternate day, some every third day, others twice weekly and still others but once weekly. There can be no fixed rule for administrating tuberculin, and any physician who treats every case according to the same rule will surely meet with disaster.

The dietetic and hygienic conduct of a case is, of course, of the highest importance. I need not dwell upon that phase of treatment in this paper. Two points, however, should be impressed upon you; first, that all acute cases should, in the beginning of this treatment, have a rest of at least two months

in bed; second, that during the ambulant stage of treatment, and even after his discharge, the patient's exercise should be carefully regulated and the dangers of auto-inoculation from overstrain should be thoroughly ingrained into him. Many a cure has failed through neglecting to observe these two, which in my humble opinion are most important steps in the care of tuberculous patients.

To summarize: Of my series of twenty-eight cases, the ages ranged from nineteen to fifty-one years, the period of treatment from two and one-half months to about one year. The result: apparently cured nine cases, arrested six cases, improved eight cases, and not improved three cases, died two cases. There were then of the twenty-eight cases, fifteen apparently cured or arrested.

These results justify me in continuing along the same line of treatment and I hope to add very materially to this series. My small experience to the present time convinces me that bovine tuberculin in the treatment of pulmonary tuberculosis is most efficacious, as a remedial adjunct, and I hope in time to help prove that as a curative aid, it is superior to the human tuberculin. In the meantime, let us not forget that no tuberculin is a specific—that we sincerely hope, in time, some form will prove so—and that all we can attempt to do with our present knowledge is to stimulate the body's natural defenses and to aid the forces which nature has given us to combat tuberculosis.

## SCIENTIFIC REVIEW

### SYMPTOMOLOGY OF INFANTILE PARALYSIS.

Probably no disease presents a more interesting clinical picture than the so-called acute anterior poliomyelitis of children, and although the ordinary textbook case is familar to most of us, many articles have been published in the past few years about other symptoms of the disease arising from damage to the higher centers and called polioencephalitis.

Wickman, "Beitrage zur Keuntnis der Heine-Medinschen Krankheit," Berlin, 1907, divided these cases into the following types:

(1) Spinal poliomyelitis, common text-book type.

(2) Ascending myelitis. The inflammation rapidly ascending until it affected the basal nuclei, and resembling Laudray's paralysis.

(3) Bulbar or pontine cases, generally fatal.

(4) Encephalitis, affecting the cerebral cortex.

(5) Ataxia (cerebellar), resembling Friedreich's ataxia.

(6) Polyneuritis, causing great local tenderness, and severest in the middle of the course of the nerve.

(7) Meningitis, cases which develop before the onset of paralysis, with symptoms of meningeal irritation, usually passing off fairly soon.

(8) The abortive form, where no paralysis developed, although constitutional symptoms were present resembling those of other patients who were subsequently paralyzed. To those forms must be added the spino-rubral form with acute tremor, described later by Muller.

In an epidemic recorded by Pasteur in 1896, a whole family of seven children were attacked with fever within two days. In three of these cases the fever was followed by paralysis, and by other nervous symptoms in four others. The eldest, age eleven, five days after the onset of the fever, was paralyzed in the left arm, and had a transient paralysis of the right side of the face and palate; the second child suffered from a rigid hemiplegia of the right side; another after a few days of fever was seized with tremors lasting a few days, and the youngest also had a strabismus.

In the experimental work done by Flexner and Lewis (Journal of Experimental Medicine, March 14, 1910), eighty-one monkeys were successfully injected with the virus, all resulting in paralysis, and some interesting conclusions as to the cause of the infection were made. They state that the cause of the lesion is no doubt a minute organism, which does not exist apart from its host, which becomes implanted upon the leptomeninges, especially in the region of the spinal cord and medulla, setting up changes most marked in perivascular lymph spaces of the arteries entering the anterior part of the cord. They also state that the brain is less commonly affected, but at times there is a paralysis of the cranial and facial nerves, and also in parts of the brain which do not respond by paralysis. Levaditi and Landsteiner (Compt. rend. Soc. de Biol., 1910, XVIII, 417) conclude, after their experiments on monkeys, that the virus enters through the nasal mucous membrane, and obtains entrance to the brain by following the branches of the olfactory nerve. Both Flexner and Levaditi conclude that the poison of the disease is excreted by the nasal mucosa, and suggest nasal discharges as possible sources of infection.

Many of the symptoms caused by the invasion of the mid-brain and its connections are never seen by the physician, because of the fact that the children are not often brought to him in the acute stages of the disease, and these symptoms often pass off quickly. A most interesting symptom is the so-called acute tremor, described by Gordon Holmes "On Certain Tremors in Organic Cerebral Lesions" (Brain, 1904, p. 327), and later by Miller, "On Certain Cases of Acute Tremor Occuring in Children" (Brain, 1909, pt. CXXV, vol. XXXII, p. 54). Miller showed that in several cases where the higher centers were affected a tremor came on

with acute onset, and was very characteristic. The tremor was slow, regular, in rate about five per second, and was constant, except during sleep, and increased by voluntary movements. In some cases it appeared as if the child were shivering all over. Miller says the cerebello-rubro spinal system, which is affected in the above condition, consists of two parts, the cerebello-rubral and the rubro-spinal. In the former the dentate nucleus of the cerebellum is connected with the red nucleus and optic thalamus of the opposite side by the superior cerebellar peduncle, in the latter the red nucleus is connected by the tractus spinalis (Monakow's bundle) with the opposite side of the spinal cord. In the pons, Monakow's bundle passes close to the nucleus of origin of the seventh cranial nerve. In this system, therefore, are two decussations, each of which occurs in the immediate neighborhood of the red nucleus, the superior cerebellar peduncles crossing before entering the nucleus, and Monaknow's bundle crossing after leaving it. From this follows that if the tremor be due to destruction of any part of the system, the movement will be on the same side as the lesion, unless the red nucleus itself or its immediate surroundings be involved, in which case it will be on the opposite side.

A very interesting article by Parsons, entitled "Polioencephalis of the Cerebello-Rubro Spinal System, a Cause of Acute Tremor in Children" (The British Journal of Children's Diseases, June, 1910), contains a description of four cases where the tremor was the characteristic symptom, but he says that polioencephalitis presents a symptomatology varying with the part of the brain affected. In the cortex, convulsions, infantile hemiplegia, mental deficiency and epilepsy may result. In the midbrain, we should find nuclear palsies of the third and fourth, also of the red nucleus and its connections. In the pons, nuclear palsies of the fifth and seventh, etc., and if in the cerebellum there might develop a wild ataxia, accompanied by hypotonia of the muscles and possibly nystagmus.

In discussing the cases having this acute tremor, Parsons states that these cases were seen in well-nourished children, between the ages of fifteen months and four years, and coming on in the hot summer and autumn. After a period of constitutional disturbance lasting a few days, the slow rythmic tremor described above would come on. It affected the limbs, trunk, neck, tongue, or all of them, and was continuous except during sleep. This tremor disappeared after a short period usually, but might come on again in periods of excitement or on voluntary movement.

Although pathological evidence is lacking in these cases, it is very evident that polioencephalis is a disease affecting the brain in identically the same way as poliomyelitis does the cord, and that many of these cases pass over observation. In the past two months cases of poliomyelitis with acute tremor and other symptoms resembling Parsons' cases of polioencephalitis, have been brought to this city from Weed, Siskiyou County.

Careful histories obtained from the mothers, covering the acute stage of the disease, and accurate observation on the part of the medical men should in the near future add some valuable data on the symptomology of this interesting disease.

The San Francisco County Medical Society has appointed a committee to consider epidemics of poliomyelitis and allied conditions. Dr. Milton Lennon is chairman and would be glad to receive from members of the society reports of cases for study. The committee will attempt a comprehensive report of the disease as it exists in California.

H. H. Yerrington, M. D.

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## DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

## GENERAL PRINCIPLES TO BE FOLLOWED IN REVISING THE PHARMACOPOEIA.

Adopted by the United States Pharmacopoeial Convention, Washington, D. C., May 10, 1910.

In accordance with the instructions of the Convention of 1909, the Committee of Revision created by this body herewith presents a draft of a plan for revising the next Pharmacopoeia, which will be the ninth revision.

### 1. Scope of the Pharmacopoeia.

We recommend that the Committee of Revision be authorized to admit into the Pharmacopoeia any medicinal substance of known origin; but no substance or combination of substances shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights, and the list of substances should be carefully selected, with standards for identity and purity, as far as possible. Substances used only for technical purposes should not be admitted to the next Pharmacopoeia, and a statement should be placed in the preface to the effect that standards of purity and strength, prescribed in the text of the Pharmacopoeia, are intended solely to apply to substances which are used for medicinal purposes or in determining the identity and purity of the same.

### 2. Doses.

We recommended that after each pharmacopoeial article (drug, chemical, or preparation) which is used or likely to be used internally or hypodermically, the committee be instructed to state the average approximate (but neither a minimum nor a maximum) dose for adults, and, where deemed advisable, also for children. The metric system to be used, and the approximate equivalent in ordinary weights or measures inserted in parenthesis. It is to be distinctly understood that neither this convention nor the Committee of Revision created by it intends to have these doses regarded as obligatory on the physician or as forbidding him to exceed them whenever in his judgment this seems advisable; the committee should be directed to make a distinct declaration to this effect in some prominent place in the new Pharmacopoeia.

### 3. Nomenclature.

We recommend that changes in the titles of articles at present official be made only for the purpose of insuring greater accuracy, brevity, or safety in dispensing and to eliminate therapeutically suggestive titles. In the case of newly admitted

articles, it is recommended that such titles be chosen as are in harmony with general usage and convenient for prescribing; but in the case of chemicals of a definite composition the scientific name should be given at least as a synonym.

There should also be inserted, after each article used by physicians in prescriptions, a carefully considered abbreviated name, which may be known as an official abbreviation, in order that uniformity may be established throughout the country, with the object of preventing mistakes in reading and compounding prescriptions, and further, to serve as authorized abbreviations in labeling the store furniture of the pharmacist.

### 4. Synonyms.

We recommend that the list of synonyms should be enlarged for the next revision, and the synonyms printed in the text of the Pharmacopoeia, immediately after the English name of the substance. A statement should be made in the preface of the Pharmacopoeia, that substances labeled with an official synonym, must comply with the same standards, tests and requirements as are demanded for the official article under any name.

### 5. Purity and Strength of Pharmacopoeial Articles.

We recommend that the committee be instructed to revise as carefully as possible the limits of purity and strength of the pharmacopoeial chemicals and preparations for which limiting tests are or may be given. While no concession should be made towards a diminution of medicinal value, allowance should be made for unavoidable, innocuous impurities or variations due to the particular source or mode of preparation, or to the keeping qualities of the several articles.

The "Purity Rubric," which limits the percentage of innocuous impurities, as introduced into the Eighth Revision, should be continued, and tests and requirements should be appended to each article carrying a "Purity Rubric."

In the case of crude drugs and natural products, the limits of admissible impurities should be placed at such a figure as to exclude any that would not be accepted by other countries.

### 6. International Standards.

The International Conference for the Unification of Formulas for Potent Remedies performed a signal service for all countries by recommending the various pharmacopoeias of the world to adopt certain standards for potent medicines. It is recommended that the next Committee of Revision adopt these standards, but it is believed that it would be unwise to require the acceptane of the details of pharmaceutical or other processes recommended by the International Conference.

If the finished product conforms to the International standards we believe that each country should be left free to adopt such detail and manipulation as may seem best. Nothing should prevent, however, the adoption of the recommendations of the conference, as to details, if in the opinion of the next Committee of Revision, by so doing, the Pharmacopoeia can be improved.

### 7. General Formulae.

It is recommended that general formulae be introduced, as far as the particular nature of the several drugs will permit, for fluid extracts, tinctures and such other preparations as are made by identical processes, and that the general formula to be followed in each case be merely indicated by reference.

### 8. Appending a List of Preparations in Which an Official Article Is Used.

It is recommended that, especially for the convenience of practicing physicians, there should be appended after each article in the text a list of the official preparations in which it is used.

A few exceptions may be made to this in such cases as water, alcohol, glycerin, sugar, etc.

### 9. Alcoholic Percentage in Official Preparations.

It is recommended that a range of volume content, of absolute alcohol, be stated in the Pharmacopoeia, for each preparation containing alcohol.

### 10. Assay Processes.

We recommend that the committee be instructed to introduce assay processes for as many of the potent drugs and preparations made therefrom as may be found practicable, provided that the processes of assay are reasonably simple (both as to methods and apparatus required) and lead to fairly uniform results in different hands. As regards the products of such assays, tests of identity and purity should be added wherever feasible.

It is recommended that biological tests or assays, when accurate and reliable, may be admitted.

### 11. Serums and Other Biological Products.

It is recommended that serums and other biological products, of approved usefulness, if standardized by the Government or one of the departments, may be admitted to the next revision of the Pharmacopoeia.

### 12. Weights and Measures.

It is recommended that the committee be instructed to retain the metric system of weights and measures as adopted in the Eighth Decennial Revision.

### 13. Supplement.

It is recommended that the Committee of Revision be authorized to prepare a supplement to the Pharmacopoeia at any time they may deem such action desirable.

### 14. Publicity.

That the General Committee be requested to publish an abstract of proposed changes on rules and regulations previous to their final adoption.

### 15. Atomic Weights.

It is recommended that the system of atomic weights, authorized by the International Committee (0-16), be adopted for the next revision.

### 16. Physical Constants.

It is recommended that the official methods for taking physical constants be inserted in the "Introductory Notices," and these shall apply to all articles in which physical constants are officially used, unless otherwise specifically exeepted.

### 17. Standard Temperature.

It is recommended that the standard temperature of 25° C. (77° F.) be retained, as used in the present Revision (except in the case of alcohol), and that a table be inserted in the appendix for correspond ing figures at 15° C. (59° F.).

### 18. Compound Preparations.

It is recommended that those composite preparations of approved value which are now official in the Eighth Revision be not excluded from the Ninth Revision, but the introduction of new composite preparations be discouraged as far as possible.

### 19. Pharmacognostieal Descriptions.

It is recommended that, with the description of a crude drug, there be included brief, pharmacognostical descriptions, both macroscopic and microscopic where practicable, and there should be added a statement of the appearance of the structural elements in the powder, when examined microscopically, as a means of detecting adulteration.

### 20. Powdered Drugs.

It is recommended that, in the next Pharmacopoeia, powdered drugs be required to represent the entire drug unless specifically stated otherwise. Where the drug can be powdered without residue this should be required; in other cases the amount of allowable tailings, gruffs, or residue should be determined and inserted in the text.

## U. S. PHARMACOPOEIAL CONVENTION 1910-1920.

### Officers of the Convention.

President—Harvey W. Wiley, Chief Bureau of Chemistry, Washington, D. C.

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Second Vice-President—Charles Caspari, Jr., Maryland University College of Pharmacy, Baltimore.

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Albert Plaut, wholesale druggist and importer, New York, N. Y.

Ex Officio: The president of the convention; the chairman of the Committee on Revision.

### A. Ph. A. Resolution.

Resolved: That, in the opinion of the American Pharmaceutical Association it is neither wise nor expedient, even in pursuit of schemes which it is claimed will advance the material welfare of Dispensing Pharmacists, to assail, antagonize, or malign any class inseparably joined to us by commercial or professional ties.

Further, That we seriously deprecate the hostile attitude towards the medical profession and the jobbing fraternity of various Drug Journals assuming to represent pharmacists in general, or some considerable body of pharmacists in particular.

Further, That we respectfully urge upon the officers of the American Druggists' Syndicate a more careful supervision of the utterances in their so-called organ.

Its harsh language is hurtful to pharmacists, and embarrassing in their necessary relations with one another, and with physicians and jobbers.

The mercenary schemes of the few over-zealous and adventurous individuals who, being frequently without any training in pharmacy, and who have entered its ranks solely for gain and to exploit their peculiar ideas of high finance, can have no sympathy with its aims or traditions—such schemes can be helpful and profitable to only an insignificant few, and must necessarily bring inevitable disappointment and disaster to the multitude who follow in their train.

Be it further Resolved, That we recommend that any movement for the reform of medical practice be allowed to originate and proceed within the medical profession.

Further, That we are opposed to any attempt upon the part of the Pharmacal Press to dictate or compel any such reform, believing as we do that the medical profession is eminently qualified to institute and carry out its own necessary reforms.

C. M. FORD.

## CORRESPONDING EDITORS

### Corresponding Editors Elected by the County Societies.

(In this space will be printed the news matter or items of interest contributed by the Corresponding Editors from month to month.)

**Dr. C. L. Browning**, Chico, Butte Co.

**Dr. Geo. H. Kress**, Bradbury Bldg., Los Angeles, Los Angeles County.

**Dr. Geo. E. Tucker**, Riverside, Riverside County.

**Dr. F. O. Nash**, Hollister, San Benito County.

**Dr. Gayle G. Moseley**, Redlands, San Bernardino County.

**Dr. A. Miles Taylor**, 209 Post street, San Francisco, San Mateo County.

**Dr. T. A. Stoddard**, Santa Barbara, Santa Barbara County.

## SOCIETY REPORTS

### Alameda County.

The regular meeting of the Alameda County Medical Association was held in the Association rooms August 16, 1910. President C. A. Dukes presiding.

The following program was presented:

"Indications for the Removal of Tonsillar Tissue," by E. F. Card, M. D.

"Methods of the Removal of Tonsillar Tissue," by A. Galbraith, M. D.

An interesting discussion of these excellent papers was opened by Dr. H. G. Thomas, and participated in by Doctors Ewer, McCleave, Makinson, Maxson, Brinkerhoff and Milton.

Dr. Alvin Powell demonstrated the administering of nasal anesthesia with an apparatus invented by himself.

Dr. H. G. Thomas demonstrated an apparatus for the same purpose invented by Dr. E. H. Daggett.

President Dukes congratulated the Society on having among its younger members men who were sufficiently interested to work out and perfect such apparatus.

Dr. T. H. Dodds announced that he had received some of Dr. Flexner's serum, and read a letter from the doctor giving instructions under what conditions the same should be used.

The chair appointed the following members to serve on the Public Health Commission:

Dr. C. W. Page, Dr. I. W. Higgins, Dr. H. A. Makinson, Dr. J. K. Hamilton, Dr. L. H. Briggs.

Owing to the lateness of the hour adjournment was taken to Wednesday evening, August 24, when the matter of organizing a Medical Library is to be discussed.

PAULINE NUSBAUMER, Secretary.

### San Francisco County.

Regular meeting, April 12, 1910.

Dr. M. Krotoszyner presenting three cases of unusual types of nephrolithiasis:

Nephrolithiasis can exist without causing attacks of colic and a kidney-colic may occur without the existence of calculi in the upper urinary tract. The types of nephrolithiasis presented at this meeting are unusual because nothing in the previous history and symptoms of the patients justified the suspicion of an existing renal or ureteral calculosis. In a great many instances radiographic exposures of kidneys are ordered to be made in the hope of finding concrements when a careful perusal of the symptomatology would stamp this procedure as superfluous. However, at least in one of the cases presented, the possibility of an existing nephrolithiasis appeared so remote that no radiographic exposure was made before the operation and the true condition was only revealed through the operative exposure of the kidney.

Case 1. A man of 42 acquired acute gonorrhea 19 years ago, a prostatic abscess which broke into the rectum resulting. Abscess was opened by the late Dr. Morse. A plastic operation intended by Dr. Morse for repair of the existing urethrorectal fistula was not accepted by the patient. Four years ago the patient was caught in a severe rainstorm resulting in a heavy cold, general malaise, etc., from which he made a very slow recovery. Since that time he has had attacks of chills and fever, indigestion, constipation, distressing bladder symptoms. Patient looks emaciated; general examination reveals nothing abnormal. In urinating he has to sit down just as in the act of defecation, as most of the urine escapes through the rectum (pneumaturia). Urine is very cloudy, containing microscopically pus in abundance. Kidneys not palpable. Cystoscopy reveals a pouting renal orifice on the right side, otherwise the bladder mucosa offers merely the picture of a chronic cystitis. Bilateral ureteral catheterization reveals clear urine from the left and very cloudy urine from the right side which, microscopically, shows mostly pus and a few red cells. Various tests demonstrate good function on the left side and a marked deterioration or absence of functional capacity of the right kidney. On these findings a pyonephrosis was assumed to exist on the right side caused by an ascending infection. The exposure of the right kidney which was held by firm adhesions high up between the tenth and twelfth ribs demonstrated a typical stone-kidney. The organ with part of its ureter was removed. (Demonstration).

Case 2. A saloon keeper of 38 had gonorrhea several times, the last time 4 years ago. Comes under treatment for chronic gleet. Patient notices that his urine has been particularly turbid for the last seven months, and that he has lost in health and strength; impaired digestion and backache. His micturition which was very frequent some time ago, has of late improved. Examination reveals a fairly clear urine containing pus in moderate quantities. Prostatic juice contains pus cells, no gonococci. Kidneys not palpable. Cystoscopy and ureteral catheterization demonstrates a right sided pyuria and functional deterioration of right kidney. X-ray plates show numerous typical calculus shadows on right side. Right-sided nephrolithotomy demonstrates a great many calculi, filling the calices of the right kidney and these were removed. (Demonstration.)

Case 3. A baker of 29, who had had gonorrhea three years before. A typical chronic gonorrheal prostatitis. Since the turbidity in all three urinary portions was not cleared up by the usual treatment it was suspected that the existing pyuria had its source in the upper urinary tract. Cystoscopy and ureteral catheterization revealed a left-sided pyuria and functional tests showed deterioration on that side. Upon close questioning the patient admitted that he had suffered six months before a slight attack of pain in the left loin connected with a quickly disappearing hematuria. Radiographic examination revealed two typical stone shadows in the left kidney. By nephrolithotomy one large and one small calculus were removed. (Demonstration).

Case 4 Suspected ureteral calculi. A girl of 19 had suffered for the last two years from severe pain in the right side of her abdomen. The urine in this case was clear but showed microscopically a few red cells. X-ray showed two suspicious shadows near the brim of the pelvis. Therefore another X-ray exposure with a bismuth catheter introduced into the right pelvis of the kidney was taken. On this plate one could easily see the two shadows to be at least 1½ or 2 inches distant from the ureter catheter itself. These shadows therefore represented phleboliths, etc., but no calculi. (Demonstration.)

Case 5. Large papilloma of the bladder. A man of 53 had been operated upon twice for papilloma of the bladder. In the last four years repeated severe attacks of hematuria occurred which, as a rule, ceased spontaneously. Patient had bled profusely for at least three weeks prior to his death, but could not be persuaded to submit to treatment. Patient was removed to the hospital in an unconscious condition where the usual conservative modes of treatment (retaining catheter, local applications with adrenalin and other styptic fluids) proved futile as regards relieving hematuria. Therefore a suprapubic cystotomy was made after which the hemorrhage gradually ceased. Owing to the exsanguinated condition of the patient (hemoglobin 14%) blood transfusion after Crile was made by Dr. Terry, with the result that the patient's general condition was markedly improved (coma lessened, mucous membranes reddened, folds in face markedly smoothed, hemoglobin increased to 34%. pulse rate decreased from 140 to 115.) The patient, however, gradually grew weaker, relapsed into deep coma and died five days after the blood transfusion. (Demonstration of bladder).

Dr. I. W. Terry, San Francisco: I wish to add a few words in regard to transfusion in these cases. Transfusion in properly selected cases is of immense value. When it is possible in hemorrhage cases it should be done before the operation and not after. The addition of good blood to an individual, whose hemoglobin is as low as in this case mentioned by Dr. Krotoszyner, means a marked addition to his resistance and in some cases it adds the clotting factor, the fibrin ferment, which is essential in preventing further hemorrhage. Transfusion seems to stimulate normal clotting more than anything we have and puts the patient in a condition to withstand the anesthetic far better than salt solution when the cause of the trouble is loss of blood, but it should be done before the operation whenever it is possible.

Dr. Henry Meyer, San Francisco: It seems to me that some of these cases reported by Dr. Krotoszyner to-night would undoubtedly have gone unrecognized by most physicians. I am sure that they present none of the ordinary symptoms of renal stone. Another point is the fact that in ureteral calculi you can never be sure of the calculus in the ureter unless an X-ray picture is taken with a catheter inserted which will show a shadow. Many cases have been mistaken for calculus which proved to be phleboliths. I had a patient with quite a large calculus, the size of a good sized pea, about five inches below the pelvis of the kidney. The calculus was lodged there for about two weeks. The only relief for the pain was morphin. This calculus was obtained by the passage of a ureter catheter and injection of warm oil. After the injection of warm oil the patient suffered no pain whatever from the passage of the calculus down the ureter into the bladder, whereas before it had been excruciating. It would seem from that experience that it is not the passage of the calculus which causes the pain, but it is the

occlusion of the ureter with the subsequent spasm and pressure behind it.

Dr. M. Silverberg, San Francisco: In connection with the title of Dr. Krotoszyner's paper, I wish to present a specimen of stone in the kidney which is interesting for a number of reasons. In the first place it was found accidentally at autopsy, and secondly, it completely occluded the ureter and as a result the kidney and pelvis were atrophic.

## A CASE OF TERTIARY MALARIA SIMULATING GENERAL SEPTIC PERITONITIS.*

By W. A. CLARK, M. D., Alameda County Infirmary.

A very puzzling and interesting patient, who was received at the Alameda County Hospital on the evening of March 18th of this year, is the excuse for presenting to you this evening this case history.

Mr. Maynard, age 49 years, native of Texas, coachman by occupation, entered the hospital March 18, 1910, complaining of pain in the right iliac fossae. Had typhoid five months ago; malaria one year ago with chills and fever every other day, this occurring in Marysville; never had pneumonia, dysentery, and has never been in the tropics. Neisser infection five years ago. Denies syphilis. For the past year has had a cough, with the spitting of blood on two occasions; no vomiting or shortness of breath. Night sweats at times, bowels regular; never passed blood or tar-like material.

Present illness began seven days ago with a chill, followed by a headache and general malaise; on the second day vomiting occurred six or seven times, this condition continuing to the time he entered the hospital. No blood or coffee-ground material vomited. On the third day a severe pain was felt in the epigastric region and over McBurney's point, which was not relieved by vomiting. Upon entrance to hospital patient's face was gray, haggard and pinched, and showed signs of great prostration. Temperature was 102.8, pulse 134 small and running, and respiration 32.

Physical examination showed heart and lungs normal. There was marked rigidity of the abdomen, especially over the right side. On palpation the patient complained of tenderness all over the abdomen, particularly in the region of the pylorus and over McBurney's point. There was a hyperaesthetic area clearly defined in the region of McBurney's point.

Diagnosis of exploded appendix with general peritonitis was made. Operation advised and accepted. This was done without a blood examination, as the case presented to me such a clear picture. While the operating-room was being set up, blood was examined, the report giving 5200 whites, and the smear showing tertian malaria parasites. Operation was deferred and a course of quinin instituted.

The next morning general condition improved. Temperature 98, pulse 86, respiration 26. Abdomen not so rigid or tender. Evening temperature 101.5 F., pulse 100, respiration 22. The patient made an uninterrupted recovery and left the hospital on the 24th.

This case was very interesting to me from the fact that a clinical diagnosis of an exploded appendix with general peritonitis was made, and he surely would have had an abdominal section if it had not been for the controlling influence of the laboratory. I believe that the explanation of this patient's condition to be that he did have a moderate inflammation of the appendix, which lighted up his old malaria and thus exaggerated his abdominal condition.

* Read before the California Academy of Medicine.

## COMMENTS ON TROPICAL MEDICINE.

By CREIGHTON WELLMAN, Oakland.

### TROPICAL MEDICINE AT THE STATE MEETING.

The writer was struck by the broad scope of the scientific program presented at the Annual Session of the State Medical Society recently at Sacramento. A program committee who arrange for papers and discussions on Our Tropical Possessions, Pellagra, Hookworm, Amoebiasis, Filariasis, Plague and Leprosy at a society meeting in these United States are to be congratulated as useful innovators, since, with one or two admirable exceptions, these important subjects have been strangely avoided in general meetings in this country. The interest and enthusiasm with which such topics were discussed and listened to by the physicians of the State was distinctly gratifying to the writer of this paragraph. The medical profession of California seems to be ready and anxious to do its part in the elucidation and facing of the tropical problems constantly being brought to our doors. Such symposia as the one presented at Sacramento are most useful in crystallizing our facts and opinions regarding these questions. The physicians of Northern California have planned for a similar discussion of tropical disease at their coming session, and it is hoped that the next State Meeting will be the occasion of another such discussion.

### THE GREAT TROPICAL SCOURGES.

Morbidity and mortality statistics from the tropics are even harder to collect and of less value when collected than such figures are in temperate climates. In some tropical countries it is impossible to get a quarter of the sicknesses and deaths reported. Still the U. S. Public Health Reports for the three months ending April, 1910, are interesting reading. Cholera, Yellow Fever and Bubonic Plague continue to take their daily toll of the human race. Malaria, Blackwater Fever, Trypanosomiasis, Dysentery and other important diseases are not tabulated in the reports. Cholera is reported from India, Java and Sumatra, Persia, the Philippines, Siam, Straits Settlements, Turkey, Siberia, Russia, Germany and Norway. In the tropics there have been nearly 4000 reported cases in the Philippines and nearly 1400 in Java and Sumatra. From India the number of cases is not given, but nearly a thousand deaths are reported. Yellow Fever is reported from Brazil, Ecuador, Peru, Mexico, Yucatan, Panama, Trinidad and Venezuela. The cities of Para and Guayaquil suffered the most heavily, reporting 123 and 155 cases respectively. The pandemic of Bubonic Plague rages unabated, the disease being reported from Arabia, Brazil, Chile, China, Ecuador, Egypt, German East Africa, Hawaii, India, Indo China, Japan, Paraguay, Peru, Mauritius, Russia, Siam, Straits Settlements, Turkey, Venezuela and Zanzibar. India has suffered terribly, having had 88,511 reported cases with 74,448 reported deaths, which figures of course do not tell the entire story of her loss. The history of plague in Mauritius, with 120 cases during the period under discussion, is interesting, recalling the introduction of malaria into that island years ago. In Russia the mortality has been alarmingly high, 368 out of 399 cases having died.

In the Uralsk district 202 out of 208 cases succumbed, and in Beiskulak of 26 cases all died. In Peru, on the other hand, the mortality has been low, in Lambayeque 13 out of 39 died, and in Liberdad only 3 out of 32 cases were fatal.

## A CASE OF DEPRESSED FRACTURE OF THE SKULL WITH SPONTANEOUS ELEVATION OF THE DEPRESSION AND COMPLETE RECOVERY.

By WILLIAM LELAND HOLT, M. D., Banning.

On the evening of June 11, 1910, I was called to attend a boy of six, who had fallen an hour before into a rock-lined water-conduit and "broken his head." I found him unconscious, tossing about, moaning, and in profound shock. Over the right parietal eminence, including I think the coronal suture, was a conspicuous depression about two inches long and half an inch possibly in depth. The pupils were equal; there was no bleeding from the ears, nose, or elsewhere; but fluid accumulated rapidly beneath the scalp, soon obliterating the parietal dent.

The boy reacted well to a hypodermic of strychnia and morphia, and in a few hours had regained consciousness apparently. He was feeble-minded and had never learned to talk; so it was hard to tell the effect upon his mentality.

Believing that an operation was indicated to stop a subdural hemorrhage, if one had occurred, and to relieve the pressure by elevating the depressed bone, I sent the boy next morning to the Riverside County Hospital to Dr. W. W. Roblee. I learned that he arrived in unexpectedly good condition, and was not operated upon; but was greatly surprised only two days later to meet his mother on the train bringing him home, and to find that the large dent in his skull had quite disappeared! He seemed as well as before his head was broken.

## BOOK REVIEWS

**Textbook of Physiology.** Isaac Ott, A. M., M. D. F. A. Davis Company, Publishers, Philadelphia, 1909.

The third edition (1910) is very similar to the second edition (1907) and both are a marked improvement and development of the first edition (1904). In the matter of illustration the first edition contained but 137 in 550 pages of reading matter, while this edition contains 394 in 871 pages of matter. The general order of development of the subdivisions of physiology by different authors is an interesting matter for comparison. Dr. Ott places the primitive functions of digestion and absorption early and immediately after the cell and chemical constituents of the body; blood and circulation comes later; metabolism and animal heat later still and nervous physiology last.

In this edition the chapters on blood, circulation, and metabolism have been re-written, and the sections on respiration and internal secretions considerably revised.

In the words of the author this text seeks to avoid discussions, states what is generally accepted, and does not attempt to supply directions for laboratory technique.

The book has a directness of statement often that is pleasing and its large print is restful to read, but in sections there seems a lack of finish, a lack of clearness in statement or breadth of discussion such as one would expect from so large a text. The text represents an evolution and will doubtless appeal to many students and practitioners. F. W.

**Duodenal Ulcer.** By B. G. A. Moynihan, M. S. (Lond.), F. R. C. S. Published by W. B. Saunders Co., Philadelphia and London.

Less than a decade ago duodenal ulcer was considered a rarity and no one seemed confident of recognizing it during life.

To-day indisputable evidence shows its great frequency. Trained clinicians no longer consider its accurate diagnosis a difficult task. Indeed, Moynihan declares that in his experience the "diagnosis of duodenal ulcer is made with a degree of accuracy that is not exceeded in the cases of any other abdominal disorder."

The present volume of 362 pages, written in the author's well known lucid style, contains a detailed description of ulceration of the duodenum in burns, uraemia, tuberculosis and melaena neonatorum.

The chapters devoted to symptomatology and differential diagnosis of chronic ulcer have none of the earmarks of hackneyed descriptions, but show clearly the author's vast clinical experience. "The treatment of chronic duodenal ulcer should always be surgical."

Four methods of treatment are mentioned by Moynihan:

1. Excision of the ulcer—Simple excision.
2. Gastro-enterostomy.
3. Resection of the duodenum with or without the pylorus.
4. Resection and end to end anastomosis, the pylorus being left intact.

Excision is limited to small, free ulcer of the anterior surface, in which removal will not produce or be followed by constriction. Cases of this category are generally seen too late for excision. In the vast majority of instances posterior no loop gastro-enterostomy can be performed and will give the most satisfactory results.

The reviewer notes with surprise that to the numerous beautiful illustrations relating to the technique of gastro-enterostomy, the author found it necessary to add seven plates to explain a slight modification of Roux's operation, a procedure which has already been abandoned by both its originator and its chief advocate—Monprofit.

Resection of the duodenum may be resorted to in the rare cases of hourglass duodenum or of duodenal ulcer associated with gastric ulcer.

The chapters on perforation, diagnosis and treatment contain a vast amount of valuable information, and should be read by both physician and surgeon. Likewise the excellent and well illustrated pathological study of ulcer of the duodenum.

Perhaps the most valuable part of Moynihan's timely volume is the last third, which contains a detailed statement of all cases (189) operated by him to the end of 1903, with an analysis and summary. D. T.

**Diseases of Infancy and Childhood.** By Louis Fischer, M. D. F. A. Davis Company, Philadelphia, Publishers. 1910.

In this, the third, or 1910 edition, of his book, Dr. Fischer has aimed to cover his field in a complete and systematic manner. The book has been divided into twelve parts, as follows:

1. The New-Born Infant.
2. Abnormalities and Diseases of the Newly-born.
3. Feeding in Health and Disease.
4. Disorders Associated with Improper Nutrition and Diseases of the Mouth, Oesophagus, Stomach, Intestines and Rectum.
5. Diseases of the Heart, Liver, Spleen, Pancreas, Peritoneum and Genito-Urinary Tract.
6. Diseases of the Respiratory System.
7. The Infectious Diseases.

8. Diseases of the Blood, Lymph Glands or Nodes, and Ductless Glands.

9. Diseases of the Nervous System.

10. Diseases of the Ear, Eye, Skin, and Abnormal Growth.

11. Diseases of Spine and Joints.

12. Miscellaneous. (Dietary, Adulteration of Milk, Anaesthetics, Prescriptions, etc.)

The reading in the first part of the book is somewhat laborious, but in the latter half Dr. Fischer settled down to an interesting style of writing which may be followed with ease. Each disease, if possible, is presented under the sub-headings of definition, etiology, pathological anatomy, symptoms, diagnosis, prognosis, treatment and diet. Many of the medicines are in prescription form, and the suggestions as to diet are numerous. The author has evidently taken much trouble in getting the latest authority on matters of bacteriology and in presenting the same in brief but complete form.

As to infant feeding, Dr. Fischer says he favors whole cow's milk for a bottle-fed baby even from the first. He describes all methods of feeding, however, and uses them as occasion arises. At the same time he describes in detail his dietetic treatment of illustrative cases which have occurred in his practice.

Dr. Fischer thinks a local anesthetic and tonsillotomy preferable to tonsillectomy—a belief which does not accord with findings in the clinics. He also advises a general anesthetic for adenoidectomy.

In some such details Dr. Fischer's ideas may differ from those of the reader, but in general, and in particular under infectious diseases, his book is interesting, comprehensive, and replete with good plates, statistics, helpful prescriptions and welcome suggestions in diet. H. W. I.

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**Medical Electricity and Rontgen Rays.** By Sinclair Tousey, M. D. Published by W. B. Saunders Co.

The first two hundred and eighty pages of this book are really a treatise upon electricity. It is perhaps somewhat too technical for one who is beginning the study of the subject, but it contains much information that is not usually found in a book of this title; for example, the dimensions of the Spottiswood induction coil, made in 1876, are given in detail. A table of the fusing points of metals and alloys is included, and a description of the electric light and power service, with extracts from the regulations of the United States National Board of Fire Underwriters is added.

The next seventy pages consist of a description of the physiologicl efforts of electricity upon the various body structures, thus we find the effect caused by electric stimulation of the vagus, of the sympathetic system, of the myocardium, etc., stated, and as references are freely given, it should be of service to those interested in this branch of work.

A chapter on electro-pathology follows, containing information on the effect of lightning strokes and the pathology of high tension industrial currents. The chapter on electro-diagnosis contains excellent photographs showing the motor points. The technique given for exciting the reaction is a good one. A description of electro-diagnosis on eye diseases (a matter of not much practical importance) is added.

In the chapter entitled "Electricity in Diseases of the Nervous System," we find a description of Head's work upon the various sensibilities and plates after Starr, indicating the distribution of the various cord segments, matter not commonly to be found in a work of this kind and yet, perhaps, having some bearing to the subject discussed.

Fulguration is described in the chapter devoted to high frequency currents and the effects produced on tumor growths are noted. Whilst this method of treatment has become known as the Keating Hart method, as the author says, many individuals have for a considerable time used high frequency sparks for similar purposes. The various modes of application of high frequency current are described and the discordant results of the French and German physicians in the treatment of high blood pressure are noted, and whilst the author refers to many instances (Arterosclerosis, Sterility, Diabetes, etc.), in which he seems to regard this method of treatment as having been the predominant curative factor, yet it is done in such a way as to make criticism difficult.

The last four hundred pages are devoted to Rontgen Rays, and there are many commendable features in this portion of the work. The half-tones of the head sinuses filled with shot, thus showing the position of their shadows, are very serviceable. The plates of the teeth are excellent. The colored plates representing active X-ray tubes are poor, and would convey little to uninitiated. There are a few statements that seem to the writer to require revision; thus, it is said, imported Lumiere plates are four times faster than ordinary American plates—two to one would be a more fair estimate. The instrumentarium necessary for, and the manner of producing rapid radiograms, are noted, but the author exhibits no unwise enthusiasm in recommending their use.

The dire results that have occasionally followed the administration of large doses of Bismuth subnitrate are drawn attention to, and the proper salts recommended. The effects of prolonged X-ray exposure upon the different body tissues are listed, and references given to the original articles.

The author naturally speaks highly of his own diaphragm and of his method of estimating ray intensity, a method requiring much more space than is ordinarily allotted to the Rontgen ray rooms.

Taken in all, this book seems to be the best of its kind in English. It is, however, more suited for one having some experience than for the beginner in the work. G. L. P.

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**Operative Surgery for Students and Practitioners.** By John J. McGrath, M. D. F. A. Davis Company, Publishers, Philadelphia. 1909. Professor of Operative Surgery at the New York Post Graduate Medical School; Consulting Surgeon to the New York Foundling Hospital; Visiting Surgeon to the Harlem and Columbus Hospitals; Fellow of the New York Academy of Medicine; Member of the American Medical Association, etc. Third Revised Edition, with 276 Illustrations, Including Many Full-Page Plates in Color and Half-Tone.

That this book supplies a definite demand is evidenced by the fact that it has already passed through two previous editions. Although the title-page announces that it is written for students and practitioners, it is difficult to understand just what is the advantage of this manual over a good, up-to-date text-book.

For the student there is lacking any discussion of the principles upon which are based the various procedures described for the surgical relief of a given condition; and it is, in our opinion, perhaps an even greater error of omission that we are given no data as to the relative values of the numerous operations listed under each heading. The arrangement is the usual anatomical one, each division being preceded by a brief outline of the surgical anatomy of the region about to be considered. These anatomical descriptions are not always as lucid as might be desired. While there is a distinct advantage in having available a single volume containing both surgical anatomy and operative technic, this advantage, however, does not compensate for the utter absence of the personal note in the writings of Dr. McGrath.

There are many surgical procedures which, though antiquated, are important from the point of view of the development of the art, but which have no place in a volume purposing to contain useful, practical information. We need but mention, as an example, the operation ascribed to Rose-Andrews for the

removal of the Gasserian ganglion (p. 42) which has, probably, never been performed since the Hartley-Krause method has become public property. (1893.)

The author has omitted mention of brain-tumor, operations upon the posterior fossa of the skull, physiologic extirpation of the Gasserian ganglion, the hypophysis, the cervical lymph-nodes, blood-vessel suture, aneurysm and skin-grafting.

The book may be of some value for trained surgeons desiring a handy reference volume, and perhaps for students in a course in operative surgery under an instructor's eye; but it is questionable whether a book which, in describing Bassini's operation for inguinal hernia (p. 466-7) states that "In its upper part the incision should be deepened until the fibres of the aponeurosis of the external oblique are plainly visible. The fingers are then introduced into the upper, deeper part of the incision, and it is torn open down to its lower end," is a safe one to place in the hands of our medical students. S. H.

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**Preparatory and After Treatment in Operative Cases.** By H. A. Haubold, M. D. Publishers, D. Appleton & Co.

This is a book of six hundred and fifty pages, covering a subject the substance of which could be clearly and concisely written in a book of from fifty to a hundred pages. In order to take up space we note many illustrations which are beautiful enough to look at, but are without any special value. We are shown Kelly pads, sponges, beds, collapsible tubes for lubricants, rectal tubes, several pages of needles, etc. And while the author states that his main object in writing the book is for the general practitioner in the country, still his descriptions are for a well equipped hospital in a city.

Again he would lead us to think that there is a continual petty jealousy existing between the surgeon and the internist, and he thinks that this feeling can be eliminated by the surgeon permitting the internist to have full charge of the patient from the time that the patient has left the operating-room. This I believe to be a dangerous suggestion and one that cannot help but cause complications. The family naturally hold the surgeon responsible for the result of the operation, and he should therefore insist on having absolute charge. Haubold also advises giving a half grain of morphia hypodermically for the relief of thirst, a very dangerous and unnecessary practice. J. S.

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**Essentials of Laboratory Diagnosis.** By Francis Ashley Faught, M. D. Publishers, F. A. Davis Company, Philadelphia.

This book aims to present in a concise manner the fundamental methods of laboratory diagnosis. The effort is made to present them without unnecessary detail, and the more cumbersome and elaborate methods are omitted altogether. In the main the author has succeeded fairly well. The field is covered quite fully, following the plan laid down in the larger works. With the actual description of methods of work and the gross and microscopic appearance of various objects but little fault can be found. The subject matter, however, is badly mixed up in various places. For example, the first chapter deals with the microscope and its use, and in it are several pages devoted to the examination of urinary sediment and of the blood, matters that should be relegated to their respective chapters. Again under the subject of bacteriological examination of the blood and the making of blood culture are paragraphs on the malarial parasite and the spirillum of relapsing fever.

There is a decided disproportion in the amount of space devoted to various topics. For example, twenty-three pages are given to the subject of blood pressure. It is doubtful if this subject should receive any discussion in a manual of laboratory diagnosis; certainly not the elaborate discussion here devoted to it. Again the subject of the estimation of peptic activity is entered into quite fully. While this is a matter of real interest, its practical importance is as yet too small to call for such an elaborate discussion. And so all through the book one gets the impression of lack of balance.

Illustrations are few and not always timely. It would be far more instructive to beginners to omit pictures of an autoclave, an Arnold sterilizer and a Westphal balance, for example, and give a good chart of the microscopic picture of stained blood films. In general it may be said that the book needs good editing. H. A.

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**Surgical After-Treatment.** By L. R. S. Crandon, M. D. Publisher, W. B. Saunders.

As might well be expected, an attempt to fill nearly eight hundred pages on a subject such as this one has proven to be a failure. There must of necessity be a large number of useless illustrations and numerous repetitions, as well as a wandering away from the subject itself.

In chapter thirteen, under the heading of Gavage and Other Forms of Artificial Feeding, the author recommends as the simplest method of nasal feeding the pouring in of the fluid from a spoon into the nostril. This I believe to be bad practice, as it is much more surgical, cleaner and easier for both patient and doctor to introduce a soft catheter through the nostril and feed the patient through it.

In chapter fourteen the author fails to mention the use of quinin both as a prophylactic and curative agent in the so-called "catheter fever."

The chapter on drainage is very good.

In the treatment of erysipelas the use of the anti-streptococcic serum is not mentioned. As an illustration of how hard it is to keep to the subject-matter of this book, we might call attention to the chapter on preparatory treatment. J. S.

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**Hygiene and Morality.** A Manual for Nurses and Others, Giving an Outline of the Medical, Social and Legal Aspects of the Venereal Diseases. By Lavinia L. Dock, R. N. Publishers, G. P. Putnam's Sons, New York.

In this little book, a much-discussed subject is tactfully and skillfully handled by a thoughtful and experienced woman. Though written especially for nurses, it may well be read with interest and profit by all who are interested in the welfare of humanity.

Miss Dock first gives a clear, concise and accurate description of the venereal diseases, which should be studied in all training schools for nurses. She lays the spread of venereal diseases at the door of prostitution, and then details the failure of modern systems of police control to eliminate them. Lastly, the author discusses her plan for their prevention, claiming that they will be eradicated only when prostitution will disappear. To accomplish this, two factors are necessary: first, an active campaign of education, teaching the masses the meaning and origin of syphilis and gonorrhea; second, the granting of suffrage to women, they alone being able to legally and socially uplift and protect their sex.

Especially to be commended is the insertion of the bibliography. R. L. A.

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**The Practical Medicine Series.** Vol. II, General Surgery. Edited by John B. Murphy. The Year Book Publishing Company, Chicago, 1910.

The present well-illustrated volume of 615 concisely written pages is far superior to those of previous years, and will be found very serviceable as an index to current surgical literature. The editor's introduction contains a deal of timely and suggestive statements.

## COUNCIL MEETING.

The fifty-second meeting of the Council of the Medical Society of the State of California was held at noon of the 17th of September at the Cosmos Club, San Francisco. There were present Drs. Kenyon, Ewer, Ryfkogel, Edwards, Grosse, Parkinson, Aiken and Jones; the Chairman, Dr. Kenyon, in the chair.

The matter of Medical Defense of members was brought up and the Secretary reported that there were two actual and one threatened suits, all in Los Angeles, and that all steps had been taken to see that the suits were properly and fully defended.

The question had been raised as to whether the assessment for Medical Defense levied by the House of Delegates at the last Annual Meeting was an assessment upon members direct or upon County Societies, and whether it was optional with members to pay it or not. The Council was unanimous in its interpretation of the action of the House of Delegates as levying the assessment upon County Societies and not upon individuals; individual members have not the privilege of paying the additional dollar or not; it is an assessment of one dollar per member upon each County Medical Society as such.

The Secretary was instructed to write a letter to all County Medical Societies explaining this point and calling attention to the success of our Medical Defense efforts and also the success which similar work has received in other states. It was particularly pointed out that New York had defended 128 suits without losing a single case.

A statement as to the condition of work on the 1910 edition of the Register and Directory was presented showing that the book would be issued in October and that enough advertising had been secured to just about pay for it.

A vote of thanks was extended to Dr. Robert E. Bering, Chairman of the Advertising Committee, for his energetic and successful work in securing advertisements for the Register and the Journal.

On motion regularly carried, the Secretary was instructed to prepare a full account of the proceedings of each meeting of the Council, for publication in the State Journal.

The Secretary presented a financial statement showing an improvement in the business of the Journal and a cash balance on hand of $2,771. It was therefore decided to take up, at once, $1,000 of the outstanding loan of $1,500; it was the opinion of the Council that the Society should save the interest being paid on the long term notes and if funds should be necessary, temporarily, the money could be borrowed on short term notes from the bank.

Considerable time was devoted to a general discussion of various details of the Medical Defense work, but no changes whatever were made in the general plan and every member in good standing will be defended as heretofore.

PHILIP MILLS JONES, Secretary.

## ANTI-MENINGITIS SERUM.

The Rockefeller Institute for Medical Research, which has been supplying the antimeningitis serum gratis for several years, announces that it may discontinue, at any time after the expiration of the next six months, its preparation and distribution on a large scale.

The consensus of medical opinion, based on the employment of the antimeningitis serum in widely separated epidemics of meningitis, is to the effect that it is of undoubted value in reducing the mortality and preventing the severe consequences of the disease.

The serum is without effect in any other form of meningitis than that caused by Diplococcus intracellularis (Weichselbaum), and its favorable action is most pronounced when it is applied early in the course of the disease. Hence the institute believes it is desirable that state and municipal laboratories engaged in the preparation of diphtheria antitoxin and allied products should undertake the preparation of the serum and provide means for controlling the bacteriological diagnosis of meningitis, as they now do diphtheria and some other diseases. Unless the bacteriological diagnosis is controlled by competent authorities, the serum will, undoubtedly, be applied in some cases of meningitis due to causes which are not subject to its action, and not a few cases of epidemic meningitis will be deprived of the benefit of its use.

The serum is administered by being injected into the spinal canal by means of lumbar puncture, which operation is also required to secure the fluid for the bacteriological diagnosis; and several separate injections of the serum are required in treating a given case. The effective employment of the serum is likely, therefore, to be restricted on account of the experience and skill required in its administration and the high cost of the commercial product, unless the preparation, distribution and, when necessary, administration are undertaken by state and municipal authorities.

July 1, 1910.

## THE HENRY PHIPPS INSTITUTE FOR THE STUDY, PREVENTION AND TREATMENT OF TUBERCULOSIS.

Mr. Henry Phipps of New York has selected the University of Pennsylvania to carry on the work of the Phipps Institute. Mr. Phipps has already acquired ground in Philadelphia on which will be erected a hospital for this purpose. The extent of the benefaction exceeds $500,000.

The report of the committee selected to consider the future policy of the institute has been approved by Mr. Phipps and the trustees of the University.

The work will be divided into three general departments, each of which will be presided over by a director. For the directorship of the Laboratory, Dr. Paul Lewis, now of the Rockefeller Institute, has been selected. For directorship of the Sociological Department, Mr. Alexander M. Wilson of the Boston Association for the Relief and Control of Tuberculosis. Dr. H. R. M. Landis has accepted the appointment as director of the Clinical Department.

In addition to a board of eight directors who will be directly responsible to the trustees of the University, an advisory council has been created and will meet annually at the institute. The following have accepted the invitation to serve as members of this body: Dr. Samuel G. Dixon, Harrisburg, Pa.; Dr. S. McC. Lindsay, New York City; Dr. William H. Baldwin, Washington, D. C.; Dr. Hermann M. Biggs, New York City; Dr. William H. Welch, Baltimore, Md.; Dr. Theobald Smith, Boston, Mass.; Dr. Gideon Wells, Chicago, Ill.; Dr. Simon Flexner, New York City; Dr. James A. Miller, New York City; Dr. Lawrence Brown, Saranac, N. Y.; Dr. Henry Baird Favell, Chicago, Ill., and Dr. James Pratt, Boston, Mass.

## REPORT OF PUBLIC HEALTH COMMITTEE.

Mr. President and Members:

The Public Health Committee of the State Society wishes to report progress in many lines of public health work. We feel we are all to be congratulated on the many organizations and committees in California that are very actively and efficiently engaged in hygienic and sanitary work for our state.

During the last year efforts have been made to remedy some of the defects in construction of our public schools, to secure sanitary drinking fountains, better ventilation for school rooms, and encourage out-of-door study rooms.

Lectures have been given before many organizations on public health topics, and particularly on venereal diseases, so as to enlighten mothers as to the necessity of teaching the rising generation concerning sex hygiene.

Your committee has felt for some time that California has had a very large number of organizations and committees working along public health lines, and that some effort should be made to bring these in closer touch with each other and to systematize the work being done by them.

In conjunction with this committee, Dr. W. F. Snow, Secretary of the State Board of Health, issued a call to all organizations and agencies working for public health ends in our state, to meet at Sacramento on the day preceding our own meeting. The suggestion was well received, and the California Public Health League, which will act as a clearing-house for state and local health organizations, was regularly organized and gives excellent promise of effective work in the future.

The physicians of every community should be the arbitrators of the health of the communities in which they live, and each and every one of us should interest himself in what his community needs to better conditions of public health; and until such time as we have a National Department of Health, the family physician must do his extra share in enlarging the scope and influence of our state and local health bodies, and educate the people as to the necessities of better health conditions for the community and state.

Your committee has been using most of its efforts in the past along the line of education, but believes that we are now on the eve of material results.

Respectfully submitted.

Fitch Mattison, Chairman.

## NEW AND UNOFFICIAL REMEDIES.

Thigenol (Hoffman-LaRoche Chemical Works).

Supracapsulin 1-1000 Solution (Cudahy Packing Co.).

Adrin Inhalant Comp. (H. K. Mulford Co.).

Adrin Troches (H. K. Mulford Co.).

Accepted for N. N. R. Appendix:

Extract Chinae Nanning (Reinschild Chemical Co.).

## NEVADA STATE ASSOCIATION MEETING.

Seventh annual meeting at the Tavern, Lake Tahoe, September 19th to 21st, inclusive. The following was the program:

First day, Monday, September 19th. Morning Session.—President's address. Dr. M. R. Walker, Reno, "The Physician in the Public School." Discussion opened by Dr. M. A. Robinson. Dr. Raymond Russ, San Francisco, "Recent Developments in Thoracic Surgery." Discussion opened by Dr. W. H. Hood. Dr. Thomas W. Huntington, San Francisco, "Intussusception, Its Diagnosis and Treatment." Discussion opened by Dr. George McKenzie.

Afternoon Session.—Dr. J. N. Hall, Denver, "Diagnosis and Treatment of Gastric Ulcer." Discussion opened by Dr. Philip King Brown. Dr. Wm. Fitch Cheney, San Francisco, "Duodenal Ulcer." Discussion opened by Dr. Raymond St. Clair. Dr. M. A. Robison, Reno, "Anaesthetics." Discussion opened by Dr. W. L. Kistler. Dr. Kaspar Pischel, San Francisco, "The Family Physician and the Child with Strabismus." Discussion opened by Dr. Howard Cameron.

Second day, Tuesday, September 20th. Morning Session.—Dr. H. C. McClenahan, San Francisco, "Important Points in the Early Recognition and Differentiation of Some Diseases of the Nervous System." Discussion opened by Dr. G. B. Hamilton. Dr. J. A. McKee, Sacramento, "Empyema." Discussion opened by Dr. J. E. Pickard. Dr. Cullen F. Welty, San Francisco, "Labyrinth Examination in Suppuration of the Middle Ear." Discussion opened by Dr. Kaspar Pischel.

Afternoon Session. Dr. George B. Somers, San Francisco, "Treatment of Prolapse of the Uterus in Elderly Women." Discussion opened by Dr. B. F. Cunningham. Dr. Max Rothschild, San Francisco, "Treatment of Hemoptosis in Tuberculosis of the Lungs." Discussion opened by Dr. R. A. Peers. Dr. W. H. Patterson, Reno, "The Civic Duties of the Doctor." Dr. H. R. Oliver, San Francisco "Serum Diagnosis of Syphilis." Discussion opened by Dr. O. P. Johnstone.

Third day, Wednesday, September 21. Morning Session.—Dr. Chas. M. Steele, Reno, "Factors in the Drainage of the Nasal Accessory Sinuses." Discussion opened by Dr. J. LaRue Robinson. Dr. Henry Meyer, San Francisco, "Operations in the Bladder with the Aid of the Cystoscope." Discussion opened by Dr. R. L. Rigdon. Dr. R. L. Rigdon, San Francisco, "Perineal Operation for Prostatic Hypertrophy, with Report of Cases." Discussion opened by Dr. Henry Meyer. Dr. O. P. Johnstone, Reno. "What Should be the Attitude of the Professional Toward Venereal Disease?" Discussion opened by Dr. E. B. Gregory.

Afternoon Session.—Dr. Philip King Brown, San Francisco, "Meningitis." Discussion opened by Dr. D. A. Turner. Dr. Raymond St. Clair, Reno, "Ectopic Gestation with Report of Cases." Discussion opened by Dr. Donald Maclean. Dr. Rein K. Hartzell, Reno, "Post-Operative Treatment." Discussion opened by Dr. B. D. Bice. Dr. Freytag, San Francisco, "Visceral Ptosis and Gastro-intestinal Catarrh."

## NEW MEMBERS.

**Fee, Geo.**, San Diego.
**Phelan, C. A.**, Ferndale.
**Smith, L. A.**, San Francisco.
**Sumner, Percy**, San Francisco.
**Garceau, A. E.**, San Francisco.

## DEATHS.

Rees, David W., The Needles, Cal.
Littlepage, S. B., died in Oakland, Cal.
Wilson, Henry Robert, Santa Barbara.
Gross, Geo., San Francisco.
Tyrrell, F. D., Sacramento.
Campbell, C. G., San Bernardino.

## BOARD OF EXAMINERS, AUGUST SESSION.

Passed.

| School of Medicine— | Date of Graduation. | Percentage. |
|---|---|---|
| Cal. (Ecl.) Med. Coll., S. F., Cal | 5, 17, 05 | 79.3 |
| Coll. of P. & S., S. F., Cal | 5, 19, 10 | 78.9 |
| Coll. of P. & S., S. F., Cal | 5, 19, 09 | 77.6 |
| Coll. of P. & S., S. F., Cal | 5, 19, 09 | 76.9 |
| Coll. of P. & S., S. F., Cal | 5, 19, 10 | 76.8 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 87.5 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 85.4 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 85.4 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 85.0 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 84.7 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 82.5 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 81.9 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 82.0 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 80.3 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 80.1 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 79.5 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 77.0 |
| Cooper Med. Coll., S. F., Cal | 5, 6, 09 | 76.9 |
| Cooper Med. Coll., S. F., Cal | 5, 5, 10 | 75.9 |
| Hahnemann Med. Coll. of Pac., S. F., Cal | 4, 28, 10 | 85.8 |
| Oak. Coll. Med. & Surg., Oakland, Cal | 6, 8, 10 | 86.5 |
| Oak. Coll. Med. & Surg., Oakland, Cal | 6, 8, 10 | 86.4 |
| Oak. Coll. Med. & Surg., Oakland, Cal | 6, 8, 10 | 83.4 |
| Univ. of Cal., S. F., Cal | 5, 17, 10 | 87.2 |
| Univ. of Cal., S. F., Cal | 5, 17, 10 | 85.7 |
| Univ. of Cal., S. F., Cal | 5, 12, 08 | 77.9 |
| Univ. of Cal., L. A., Cal | 5, 17, 10 | 89.6 |
| Univ. of Cal., L. A., Cal | 5, 17, 10 | 87.3 |
| Univ. of Cal., L. A., Cal | 5, 17, 10 | 83.5 |
| Univ. of Cal., L. A., Cal | 5, 17, 10 | 79.8 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 90.2 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 87.4 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 86.6 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 86.4 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 82.9 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 82.7 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 82.3 |
| Univ. of So. Cal., L. A., Cal | 6, 17, 09 | 82.1 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 80.4 |
| Univ. of So. Cal., L. A., Cal | 6, 24, 09 | 78.2 |
| Univ. of So. Cal., L. A., Cal | 6, 16, 10 | 77.9 |
| Am. Med. Missionary Coll., Ill | 6, 06 | 90.4 |
| Am. Med. Missionary Coll., Ill | 6, 06 | 89.8 |
| Am. Med. Missionary Coll., Ill | 6, 26, 00—83.6 plus 5 | 88.6 |
| Am. Med. Missionary Coll., Ill | 6, 23, 03 | 85.5 |
| Am. Med. Missionary Coll., Ill | 6, 03 | 82.3 |
| Bellevue Hosp. Med. Coll., N. Y | 3, 14, 83—74.3 plus 10 | 84.3 |
| Coll. of P. & S., Ill | 5, 26, 03 | 79.8 |
| Columbia Univ., N. Y | 6, 2, 09 | 83.9 |
| Columbia Univ., N. Y | 05 | 81.7 |
| Creighton, John A., Med. Coll. Neb | 5, 15, 06 | 80.5 |
| Detroit Coll. of Med., Mich | 4, 30, 96—83.1 plus 5 | 88.1 |
| Durham Univ., Eng | 4, 03 | 78.5 |
| Hahn. Med. Coll. & Hosp. of Philadelphia, Pa | 6, 2, 09 | 77.8 |
| Harvard Med. School, Mass | 6, 26, 07 | 85.7 |
| Hosp. Coll. of Med., Ky | 7, 1, 02 | 77.1 |
| Jeff. Med. Coll., Pa | 6, 6, 10 | 88.3 |
| Johns Hopkins Univ. Med. Sch., Md | 6, 08 | 89.9 |
| Johns Hopkins Univ. Med. Sch., Md | 6, 14, 10 | 87.1 |
| Johns Hopkins Univ. Med. Sch., Md | 6, 14, 10 | 84.6 |
| Johns Hopkins Univ. Med. Sch., Md | 6, 9, 08 | 83.9 |
| Kans. City Med. Coll, Mo | 3, 91—72 plus 5 | 77.0 |
| Long Island Hosp. Coll., N. Y | 3, 23, 92—83.8 plus 5 | 88.8 |
| Louisville Med. Coll., Ky | 4, 11, 05 | 81.1 |
| Louisville Med. Coll., Ky | 3, 25, 97—73.8 plus 5 | 78.8 |
| McGill Univ., Canada | 6, 9, 10 | 75.0 |
| Med. Coll. of So. Carolina | 4, 2, 03 | 84.4 |

## BOARD OF EXAMINERS, AUGUST SESSION.

### Passed.

| School of Medicine— | Date of Graduation. | Percentage. |
|---|---|---|
| Med. Schl. of Maine | 6, 89 | |
| Bell. Hosp. Med. Coll., N. Y. | 3, 90—77 plus 10 | 87.0 |
| N. W. Univ. Med. Sch., Ill. | 6, 8, 10 | 86.8 |
| N. W. Univ. Med. Sch., Ill. | 6, 4, 08 | 84.8 |
| N. W. Univ. Med. Sch., Ill. | 6, 4, 08 | 83.6 |
| N. W. Univ. Med. Sch., Ill. | 6, 9, 09 | 83.1 |
| N. Y. Homeo. Med. Coll. & Hosp., N. Y. | 5, 17, 06 | 80.0 |
| Ohio Med. Univ. of Columbus, O. | 4, 16, 03 | 77.4 |
| Oreg. Univ. Med. Dep't, Ore. | 5, 4, 08 | 75.8 |
| Rush Med. Coll., Ill. | 12, 20, 09 | 92.4 |
| Rush Med. Coll., Ill. | 6, 1, 09 | 82.2 |
| Rush Med. Coll., Ill. | 5, 22, 95—75.5 plus 5 | 80.5 |
| St. Louis Univ. | | |
| Marion Sims Beaumont Med. Coll., Mo. | 5, 19, 06 | 85.2 |
| St. Louis Univ., Mo. | 5, 31, 10 | 80.3 |
| State Univ. of Iowa | 6, 12, 06 | 78.0 |
| Tulane Univ. of Louisiana, La. | 5, 20, 08 | 75.5 |
| Univ. of Edinburgh, Scotland | 7, 04 | 92.9 |
| Univ. & Bell. Hosp. Med. Coll., N. Y. | 6, 8, 10 | 85.0 |
| Univ. of Finland (Imperial Alex's) | 2, 22, 10 | 83.1 |
| Univ. of Ill., Coll. of P. & S., Ill. | 6, 9, 08 | 88.2 |
| Univ. of Ill., Coll. of P. & S., Ill. | 5, 28, 01 | 83.2 |
| Univ. of Ill., Coll. of P. & S., Ill. | 6, 5, 06 | 78.9 |
| Univ. of Turin, Italy | 7, 12, 02 | 86.7 |
| Univ. of Maryland, Md. | 4, 16, 95—79.8 plus 5 | 84.8 |
| Univ. of Maryland, Md. | 4, 18, 93—78.4 plus 5 | 83.4 |
| Univ. of Michigan, Mich. | 6, 24, 09 | 80.9 |
| Univ. of Minnesota, Minn. | 6, 10, 09 | 80.6 |
| Univ. of Minnesota, Med. Dep't (Homeo.), Minn. | 6, 11, 08 | 79.9 |
| Univ. of Minnesota, Coll. of Med., Minn. | 6, 1, 05 | 77.2 |
| Univ. of Penn., Med. Dep't, Pa. | 6, 15, 04 | 82.8 |
| Vanderbilt Univ., Tenn. | 5, 2, 10 | 84.6 |
| Vanderbilt Univ., Tenn. | 5, 1, 06 | 84.1 |
| Western Univ., London, Can. | 1, 06 | 82.7 |

### Failed.

| School of Medicine— | Date of Graduation. | Percentage. |
|---|---|---|
| Cal. (Eclec.) Med. Coll., L. A., Cal. | 5, 19, 10 | 72.4 |
| Coll. of P. & S., S. F., Cal. | 6, 6, 07 | 72.7 |
| Coll. of P. & S., S. F., Cal. | 5, 03 | 71.9 |
| Coll. of P. & S., S. F., Cal. | 5, 19, 10 | 69.5 |
| Coll. of P. & S., S. F., Cal. | 6, 6, 07 | 51.6 |
| Cooper Med. Coll., S. F., Cal. | 5, 5, 10 | 72.1 |
| Cooper Med. Coll., S. F., Cal. | 5, 5, 10 | 64.0 |
| Hahn. Med. Coll. of Pac., of S. F., Cal. | 5, 27, 09 | 71.6 |
| Univ. of So. Cal., Coll. P. & S., L. A., Cal. | 6, 6, 06 | 69.2 |
| Amer. Med. Coll., St. Louis, Mo. | 5, 10, 98—38.9 plus 5 | 43.9 |
| Chi. Coll. of Med. & Surg., Ill. | 5, 16, 10 | 70.5 |
| Cleveland Homeo. Med. Coll., O. | 4, 30, 03 | 72.0 |
| Cleveland Homeo. Med. Coll., O. | 3, 22, 92—50 plus 5 | 55.0 |
| Coll. of Minneapolis, Minn. (Hamlin Univ.) | 6, 5, 07 | 72.4 |
| Jefferson Med. Coll., Pa. | 3, 29, 84—66.5 plus 10 | 76.5 |
| Kentucky Sch. of Med., Ky. | 7, 13, 06 | 61.7 |
| Syracuse Univ. (Coll. of Med.), N. Y. | 6, 10, 03 | 72.1 |
| Univ. of Indianapolis, Ind. | 4, 17, 03 | 72.9 |
| Univ. of Louisville, Med. Dep't, Ky. | 3, 14, 92—65.6 plus 5 | 70.6 |
| Univ. of Med. Coll., Kansas City, Mo. | 4, 7, 05 | 69.4 |
| Univ. of Toronto, Canada | 6, 12, 03 | 73.2 |

### Osteopathy—Passed.

| | | |
|---|---|---|
| Amer. Sch. of Osteop., Mo. | 6, 22, 97—75 plus 5 | 80.0 |
| Amer. Sch. of Osteop., Mo. | 5, 31, 10 | 75.0 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 85.3 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 81.9 |
| L. A. Coll. of Osteop., Cal. | 6, 3, 09 | 80.2 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 80.5 |
| L. A. Coll. of Osteop., Cal. | 1, 27, 10 | 80.4 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 79.9 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 79.8 |
| L. A. Coll. of Osteop., Cal. | 6, 2, 10 | 79.0 |
| L. A. Coll. of Osteop., Cal. | 1, 27, 10 | 78.9 |
| L. A. Coll. of Osteop., Cal. | 1, 27, 10 | 76.8 |
| L. A. Coll. of Osteop., Cal. | 1, 27, 10 | 76.1 |
| L. A. Coll. of Osteop., Cal. | 6, 3, 09 | 76.0 |
| L. A. Coll. of Osteop., Cal. | 1, 27, 10 | 75.3 |

| | | |
|---|---|---|
| L. A. Coll. of Osteop., Cal | 1, 27, 10 | 75.1 |
| L. A. Coll. of Osteop., Cal | 6, 2, 10 | 75.0 |
| Pac. Coll. of Osteop., L. A., Cal | 2, 3, 10 | 82.5 |
| Pac. Coll. of Osteop., L. A., Cal | 6, 23, 10 | 82.2 |
| Pac. Coll. of Osteop., L. A., Cal | 2, 4, 09 | 82.1 |
| Pac. Coll. of Osteop., L. A., Cal | 6, 23, 10 | 79.0 |
| Pac. Coll. of Osteop., L. A., Cal | 6, 23, 10 | 77.4 |

**Osteopathy—Failed.**

| | | |
|---|---|---|
| L. A. Coll. of Osteop., Cal | 6, 2, 10 | 73.3 |
| L. A. Coll. of Osteop., Cal | 6, 3, 09 | 72.8 |
| L. A. Coll. of Osteop., Cal | 1, 27, 10 | 72.6 |
| L. A. Coll. of Osteop., Cal | 1, 27, 10 | 71.8 |
| L. A. Coll. of Osteop., Cal | 6, 2, 10 | 71.8 |
| L. A. Coll. of Osteop., Cal | 6, 2, 10 | 70.2 |
| L. A. Coll. of Osteop., Cal | 6, 3, 09 | 68.8 |
| L. A. Coll. of Osteop., Cal | 6, 2, 10 | 64.8 |
| Pacific Coll. of Osteop., Cal | 2, 3, 10 | 73.4 |

## NEW LICENTIATES.

H. Abrons, A. B. Allen, K. W. Allen, C. A. Anderson, J. G. Anderson, P. J. Anderson, H. Andrews, O. I. A. Bondies, A. M. Brasher, W. B. Bowman, T. H. Brown, C. M. Brown, M. R. Bruin, M. M. Bullard, C. T. Bullard, R. L. Byrnes, M. G. Carter, R. S. Carter, E. M. Caryl, J. D. Chambers, W. S. Cheeney, J. L. Choate, E. M. Clinton, L. C. Combacker, D. D. Comstock, C. F. Curtis, A. K. Davenport, G. R. Diven, J. W. Eede, J. M. Eklund, E. B. Fitzpatrick, H. J. Forbes, F. E. Frates, C. E. Gage, W. E. Garrey, A. Gottschalk, F. F. Gundrum, C. M. Hankin, C. R. Harden, R. E. Herendeen, H. J. Hoare, M. O. Hooker, F. L. Horne, C. W. Hutchison, M. C. Jacquette, A. Jardini, B. F. Johnson, Jr., E. B. Jones, T. Joos, J. T. Kergan, A. M. King, C. R. Knox, W. C. S. Koebig, W. S. Kuder, G. F. S. Landon, J. H. Lang, E. I. Leavitt, J. H. Legris, A. D. Long, S. F. Long, Jr., W. C. Mackintosh, G. Manson, I. B. March, H. B. McDaniel, A. M. McNabb, L. G. McNeile, E. L. Meyers, A. R. Michael, W. P. Milliken, G. T. Mountford, F. R. Mugler, O. Murray, G. R. B. Myers, J. P. Nuttal, Jr., W. D. Osgood, J. C. Paine, E. B. Palmer, F. W. Parrish, D. C. Perry, J. H. Pond, J. K. Ranson, C. Rasor, J. T. Ray, L. E. Ray, A. C. Reed, J. R. Renaker, M. M. Ring, R. W. Risley, J. M. Roberts, W. K. Robinson, H. E. Rodley, H. A. Rosenkranz, W. A. Ruble, F. S. Ryan, J. Sanderson, J. H. H. Scudder, J. H. Seiffert, A. D. Sinclair, W. H. Slabaugh, C. Snowden, D. Splaine, Jr., C. G. Stadfield, E. G. Stewart, N. G. Stewart, S. Sundstrom, J. Talbot, J. B. Thomas, W. H. Thompson, A. J. Thornton, J. Thornton, H. P. Travis, R. B. Tupper, L. R. Tyler, J. A. Vernier, C. Wayland, A. L. Weber, F. D. West, J. L. Whisler, S. C. Wilson, W. H. Wimp, W. P. Winters.

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| Counties. | President. | Secretary. | Meets. |
|---|---|---|---|
| Alameda County Medical Association | Chas. A. Dukes, Oakland | Pauline Nusbaumer 1169 Broadway, Oakland | 3d Tuesday, 127 Telegraph Ave., Oakland |
| Butte County Medical Society | E. A. Kusel, Oroville | Ella F. Gatchell, Chico | 2d Tuesday |
| Contra Costa County Medical Society | C. R. Leech, Walnut Creek | F. Rattan, Martinez | 2d Sunday every month |
| Fresno County Medical Society | C. P. Kjaerbye, Fresno | L. R. Willson, Fresno | 1st Tuesday |
| Humboldt County Medical Society | C. W. Mills, Arcata | E. V. Falk, Eureka | 2d Tuesday |
| Imperial County Medical Society | J. V. McCombs, El Centro | J. L. Cook, Brawley | |
| Kern County Medical Society | S. F. Smith, Bakersfield | W. S. Fowler, Bakersfield | 3d Monday |
| Los Angeles County Medical Society | W. W. Richardson, Los Angeles | Geo. H. Kress, Los Angeles | Friday, except July, Aug. & Sept. |
| Marin County Medical Society | F. J. Hund, Ross Station | H. O. Howitt, San Rafael | Every Thursday |
| Mendocino County Medical Society | F. E. Allen, Talmage | L. K. Van Allen, Ukiah | Meets quarterly |
| Merced County Medical Society | E. S. O'Brien, Merced | L. H. Woolsen, Merced | 1st Thursday |
| Monterey County Medical Society | T. C. Edwards, Salinas | H. T. Crabtree, Salinas | 1st Saturday |
| Napa County Medical Society | F. C. Newton, St. Helena | O. T. Schultze, Napa | 1st Tuesday |
| Orange County Medical Association | J. L. Beebe, Anaheim | Ida B. Parker, Orange | 1st Tuesday |
| Placer County Medical Society | J. G. Mackay, Truckee | G. H. Fay, East Auburn | 1st Saturday every 2d month |
| Riverside County Medical Society | A. W. Walker, Riverside | G. E. Tucker, Riverside | 2d Monday |
| Sacramento Society for Medical Improvement | G. W. Dufficy, Sacramento | Chas. McKee, Sacramento | 3d Tuesday |
| San Benito County Medical Society | L. C. Hull, Hollister | F. O. Nash, Hollister | 1st Monday |
| San Bernardino Medical Association | W. P. Burke, Highland | G. G. Moseley, Redlands | 2d Tuesday |
| San Diego County Medical Society | R. E. Austin , San Diego | H. A. Thompson, San Diego | 1st Friday |
| San Francisco County Medical Society | Langley Porter, San Francisco | Rene Bine, San Francisco | 2d Tuesday |
| San Joaquin County Medical Society | J. P. Hull, Stockton | B. F. Walker, San Joaquin | 4th Friday, except July and August |
| San Luis Obispo County Medical Society | H. M. Cox, San Luis Obispo | R. M. Bradbury, San Luis Obispo | |
| San Mateo County Medical Society | J. L. Ross, Redwood City | F. M. Seibert, San Mateo | 1st Monday every 2d month |
| Santa Barbara County Medical Ass'n | D. A. Conrad, Santa Barbara | T. A. Stoddard, Santa Barbara | 2d Monday |
| Santa Clara County Medical Society | E. R. Wagner, San Jose | J. J. Kocher, San Jose | 3d Wednesday |
| Santa Cruz County Medical Society | S. T. Pope, Watsonville | E. E. Porter, Watsonville | 1st Monday |
| Shasta County Medical Society | S. T. White, Redding | B. F. Saylor, Redding | Meets quarterly |
| Solano County Medical Society | P. B. Fry | J. J. Hogan, Vallejo | 3d Wednesday |
| Sonoma County Medical Society | S. Z. Peoples, Petaluma | Jackson Temple, Santa Rosa | 1st Friday |
| Stanislaus County Medical Society | W. J. Wilhite, Modesto | B. F. Surryhne, Modesto | 2d Tuesday at Modesto |
| Tehama County Medical Society | J. A. Owen | F. L. Doane | |
| Tuolumne County Medical Society | E. E. Wilson, Greenville | C. F. English, Sonora | |
| Ventura County Medical Society | J. C. Bynum, Ventura | P. S. Van Patten, Nordhoff | 1st Monday |
| Yolo County Society for Medical Improvement | T. W. Gallion, Davisville | Frances L. Newton, Woodland | 1st Tuesday, except July, Aug., Sept. |
| Yuba-Sutter Counties Medical Society | J. H. Barr, Marysville | G. W. Stratton, Marysville | Meets quarterly |

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## EDITORIAL NOTES.

SPASM OF VIRTUE!

About the end of September the San Francisco morning papers worked themselves into a fine frenzy over the fact that quack "doctors" and abortionists existed. This frenzy was not noticeably caused by ingrowing newspaper virtue; it was due to public indignation upon the disclosure of the murder of Eva Swan. Were the murdered girl alive, she could probably say to one or more of these virtuously indignant papers: *"I saw the advertisement in your paper."* These dailies clamored vociferously to the County and State Medical Societies and to the Board of Examiners, "What are you going to do to stop this sort of thing?" But did they ask themselves what *they* were going to do to help stop it? Nay! Nay! Quackery and quack abortionists of the dirty, murder type, live and thrive only because the newspapers will publish their advertisements. Let us, for example, take the three morning papers of the day the murder was published—September 24, 1910. We may eliminate the *Sun*, because it is young and has not published any "medical" advertising; it has also announced that it will not publish any of this stuff. The *Examiner* of that date—September 24th—on the front page had the account of the abortion-murder; on page 13 it printed ten advertisements of abortionists. Such phrases as these are to be found in the ten advertisements: "All women's ailments . . . everything used carefully sterilized which ensures absolute safety." "I never had a failure; I use antiseptic precautions." "Ladies, when worried about your condition . . . consult one who never fails." "My sterilization (*sic*) ensures perfect safety." "Most skillful and painless methods. Antiseptic precautions." The *Call* for the same date also contained on the first page the abortion-murder story, and on page 15 some interesting advertisements; especially interesting in the light of the awful indignation which the *Call* expressed later, markedly on September 30th! The *Call* was not so successful, in the business way, as the *Examiner;* it could not divide so much of this blood-money; it had only four advertisements of abortionists. But the *Call's* language is no less interesting than that of the *Examiner*. We are edified to read: "Ladies . . .if you are worried about your condition . . . no pain, no danger, no lost time. . . . Call on me in privacy and be restored to freedom from care and worry." The *Call* of September 25th had five such advertisements; a day or two later it became very virtuously indignant —and the abortion advertisements were dropped! The *Chronicle* contained and contains no such advertisements; that paper dropped them out many months ago, when the San Francisco County Medical Society made a campaign against these advertising abortionists and got the postoffice department to notify the papers.

HONEST BUSINESS.

This is truly an honest business! The money of the quack, the charlatan and the abortionist must be sadly needed in the offices of the *Examiner* and the *Call!* And then that wonderful indignation, later on, when the public protested! Wonderful, gentlemen; truly wonderful! These parasites can only live by their advertising; the papers take their money, print their advertisements, and then have the magnificent impudence to turn to the medical profession and ask why the medical societies do not stop it! Was ever anything more grotesque! And the *Call* of September 30th, in which it gives the postoffice list of abortionists whose advertisements can not go through the mail, and in which is expresses all kinds of hope that "something will be done" by the medical societies to stop the game of crime, the excessively virtuous *Call* of this particular date, contains the advertisements of not a few frauds and quacks! Is it to laugh or to weep? Can the *Call* be so wise and so virtuous in one office and so ignorant, careless or willing to participate in crime in another? Let us see what this altogether-so-virtuous *Call* is willing to take money for advertising. Passing by various and sundry laxatives with misleading worded advertisements, we come to the "mother's friend" that, if taken, will make becoming a mother quite a joy; to "Dr. Young and Dr. Chan Toa," who are "herb doctors" and can "restore dislocated bones"; to a scarey advertisement directing you to

"listen to your stomach"; to "electra-vita" (another name for a fraud against which, under other names, the postoffice has issued several fraud orders); to "Dr. Jordan's museum of anatomy"; to "Dr. Field & Co.," one of the same stamp as "Dr. Taylor & Co.," in which Arberry was caught; to "Dr. Morel," a scandalous fraud; to "Dr. H. G. Martin" who can cure "weakness." On thou virtuous *Call!* What are we medical men going to do to stop the frauds and the criminals that you newspapers build up and support and whose dirty blood money you so willingly take? Go to! Take the crime-tainted money; put it in your pocket; enjoy it, if you can, but quit this hypocritical cant, this disgusting pose of honest virtue, this public indignation at the crimes you privately participate in! Be as the *Examiner!*

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**PONDS TAMPONS.**

And now comes a new one breaking into the Viavi territory, or some similar domain of fakery. Pond's tampons were originally presented to physicians to be ordered by them or used by them and they were advertised in this JOURNAL and in the *Journal A. M. A.* But things have changed. A physician living in Berkeley has sent to the JOURNAL a little booklet which reached his wife some time in September, sent in an ordinary unsealed envelope. It is quite an interesting piece of "literature"; the title is "Health, Strength and Beauty—A Home Treatment within the reach of all women—Pond's Tampons." You see the name too has changed; it used to be Pond's tampons, when they were put out by Pond, a druggist of Berkeley. Herein we learn that the tampons should be used "In place of the objectionable examination, where a woman must dress and go to the doctor's office, then wait her turn, then loosen her clothes, and lie upon the table . . . "Many (women) are advised to have serious operations performed, when they could easily be relieved and cured by using local applications properly applied." Of course, the only way they can be "properly applied" is by means of Pond's tampons! There follows a list of diseases which is quite a nice little list for a beginning patent medicine of this kind. "The improvement in fibroid tumors has astonished physicians more than any other condition." Probably! "Pelvic Peritonitis. Use Pond's Tampons D until pain is relieved, then A." "Gonorrhea (or Clap). Use Pond's Tampons F." And so on. Will any of our members hereafter use these things and thus help the "company" to boost its wares into the market for popular consumption? Are there not enough such patent medicine concerns teaching the public to mistreat themselves now? Many phrases sound as though they had been taken from the "literature" of the Viavi fake.

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**PHYSICIANS' DEFENSE CO.**

Some time ago the JOURNAL was asked whether it was true that the Insurance Commissioner had refused to allow the Physicians' Defense Co., of Fort Wayne, Indiana, to do any more business in this state. Enquiry at the office of the Insurance Commissioner, at that time, disclosed the fact that such an embargo had been placed upon future business of this company until such time as it complied with the insurance laws of the state; presumably it is still on. The JOURNAL was requested to make this fact public. The matter was discussed and no mention of it made in the JOURNAL for the reason that it was thought that, to publish the matter, would look as though the State Society, which had recently undertaken to defend its members against malpractice suits, was trying to "knock" an insurance company writing policies for defense. The reason why we now publish anything on the subject is because this company has been writing too many letters to our members and making too many statements that are not so. One of our members, quite justly believing that the protection offered by the State Society is ample, declined to renew a policy he had held in this company. He received a letter dated Fort Wayne, September 19th, urging him to continue his policy. This letter is in places very misleading, to say the least. To quote from it: "With all due regard for the efforts of your Society, the fact still remains that it is not in a position to adequately protect your interests." That is not true; the Society is in a position to "adequately protect your interests" and is doing so right along. There is a great deal, in this long letter, about what a wonderful legal department the company has and how no other lawyers can possibly know so much. That is "popycock." Also, they talk a lot about preventing suits and intimate that the Society cannot do this; more "popycock"; we are doing it all the time. It does not look particularly well for a company, disqualified from doing further business in this state, to make such rash statements. All members will be fully defended in all malpractice suits. You need no other insurance.

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**TUBERCLE BACILLI IN SPUTUM.**

The search for tubercle bacilli in sputum by the commonly employed cover-slip method has, on the whole, yielded good results; but difficulty of demonstration in many cases has emphasized the need for better methods for the concentration of the bacilli, especially when the organisms discharged in the sputum are few in number, or when the physical characters of the expectorated material is such as to make it difficult to pick out a satisfactory portion for examination. With a realization of these difficulties fully in mind, a number of investigators (Biedert, Mühlhauser, Czaplewski, Moeller, etc.) have attempted to devise methods by which sputum might be rendered non-tenacious, thin and liquid in consistency, so that the tubercle bacilli could be set free and concentrated. These "enriching" methods have usually included the "homogenization" of the sputum by means of an alkaline solution as in the old Biedert method. On the other hand, digestive ferments have been employed with practically the same objects in view, or again, in some instances the mechanical breaking up of the tenacious sputum has been accomplished by the use of glass beads. While these methods have yielded excellent results under

special conditions, they have not been employed to any great extent in routine work. More recently a number of new methods have been proposed which promise much more than any other hitherto described procedure. Most important of these is the so-called Antiformin Method of Uhlenhuth (Cent. f. bak. Bd. XLII; Berl. klin. Woch. XLV, 1908. V. 1909).

Antiformin is the trade name of a proprietary German disinfectant consisting of alkali-hypochlorite solution of which an alkaline hydrate is added in the proportion of one-half to one part of the latter to one of the former. On account of its property of rapidly dissolving slime, it was extensively used for cleansing vats and pipes in breweries. In 1898 its application for bacteriological purposes was studied by Uhlenhuth.

Antiformin is a powerful solvent, pig bristles and horse hairs being completely dissolved in half an hour; insects, including beetles, quickly disappear, as do wool and silk; and most bacteria are dissolved in a few minutes. Cholera vibrios, spirochetæ and trytanosomes are dissolved in 0.5 per cent. solution in five minutes, while 2.5 to 5 per cent. solutions suffice to destroy most of the vegetative forms of bacteria. Antiformin, however, is not a universal bacterial solvent, for tubercle bacilli are not readily affected, and according to Uhlenhuth, stain well after exposure for several days in 50 per cent. antiformin. The addition of 20 to 25 per cent. of antiformin to sputum is said not to kill tubercle bacilli after four days, though they may be killed in shorter time when in watery solutions.

This resistance of the tubercle bacilli to the action of antiformin is shared by other acid-fast organisms and is probably connected with the waxy constituents of these bacteria, for wax is not dissolved by antiformin.

Uhlenhuth's method for using antiformin is given in the Cent. f. Bakt. 1908, XLII, page 62. Most workers have used the commercial antiformin, which is very cheap, although it may be prepared by taking 150 grams of calcium hypochlorite thoroughly triturated with 200 c.c. water. After standing a while to allow the heavier particles to subside, the supernatant fluid is filtered off, and the residue is treated with 200 c.c. water, when the whole is transferred to the filter; when the liquid has filtered off, the residue is washed with 100 c.c. of water. One hundred and fifty grams of sodium carbonate dissolved in hot water are added to the above obtained filtrate, and the mixture is thoroughly stirred and again transferred to a new filter, the residue being washed with enough water to make the product weigh 1000 grams, or measure 1000 c.c. Thirty grams of sodium hydroxide are then added. The mixture is kept in brown bottles with rubber stoppers, protected from the light. It contains about 6.5 per cent. of available chlorine and 3 per cent. of sodium hydroxide.

Most workers who have tested this method have used mixtures containing from 15 to 25 per cent. of antiformin. The antiformin is allowed to remain in contact with the sputum for a variable period. Paterson allowed 20 per cent. mixtures to stand twenty-four hours at room temperature, while Meyer employing a mixture of similar strength places the mixture from four to six hours in the incubator. Agitation of the mixture favors homogenization. Sedimentation is rendered more certain by use of the centrifuge. The washing of the sediment is very important. Normal salt solution or water is employed.

Several investigators have carefully compared the results of examinations for tubercle bacilli by this method with others ordinarily used. The advantages of the method according to Meyer, Goerres, Rau, Lagrez and Paterson are such as to make the employment of the method extensive, and from the reports of these writers, all who have occasion to examine sputum should feel encouraged to give the method a thorough trial.

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**RELATION OF INTESTINES TO PULMONARY ANTHRACOSIS.**

Since the experimental studies of Villaret in 1862 on the production of anthracosis by the intestinal route the opinion has often been expressed that intestinal absorption bears an important relation to the production of various pulmonary lesions. In recent years and especially since the publication of the studies of Calmette and Guerin in 1905 the role of the intestine as a portal of entry for pulmonary tuberculosis has been emphasized by numerous writers. Many of the experimental investigations bearing on the subject have been based on a study of the absorptive powers of the intestine with observations on the subsequent deposition of inert foreign particles in the lungs. While most investigators agree that such particles are absorbed in considerable numbers by the intestine the result of their work is by no means conclusive in showing that the absorbed particles find their way to the lungs. In view of these facts the recent studies of Montgomery (Journal of Medical Research, 1910, Vol. XXIII, p. III) on the Relation of Intestinal Absorption to Pulmonary Anthracosis are both interesting and timely.

Five years ago Vansteenberghe and Grysez working in Calmette's laboratory investigated the production of pulmonary anthracosis in guinea pigs by direct injections of carbon particles into the intestine with results which led them to conclude that the same chain of events occur as Calmette and Guerin claim for the tubercle bacillus, that is, that these fine particles of carbon are arrested in the act of inhalation in the nasal fossa and larynx and then are swallowed with the saliva and nasal mucus, thus reaching the digestive tract where they are absorbed to gain entrance into the lymphatics, the thoracic duct, and finally the lungs. Repeating and elaborating these experiments the following year Vansteenberghe and Sonneville made observations from

which they concluded that carbon and vermilion introduced directly into the mouths of guinea pigs could be traced three hours later in considerable numbers in the intestinal walls, both inside and outside of the chyle ducts. These articles aroused considerable interest in the subject as shown by the appearance soon afterwards of papers by Remlinger, Mironesco, Basset, Herman, Schultze, Feliziani, Kuss and Lobstein, and others. Most of these observers, including the special commission appointed by the Societe de Biologie agree as to the entrance of foreign particles into the intestine and mesenteric glands but the question of how much if any of this pigment is deposited in the lungs was by no means definitely settled. Some of the writers, including Mafucci, and Basset and Carre claimed to have found the carbon in the liver and spleen only.

Montgomery in his restudy of the problem has concluded, contrary to general results obtained that no deposition occurred in the lungs after absorption from the intestine. It would therefore appear from his investigation that the intestine is an unimportant portal of entry in the production of pulmonary anthracosis. There is some evidence apart from the experimental which supports this view. Common experience has shown the predominance of the pulmonary deposition of carbon in human subjects with comparatively insignificant amounts in the liver, spleen and mesenteric lymph nodes whereas under experimental conditions of intestinal absorption the reverse order is observed. So far as bacteria are concerned such investigations may be suggestive but they cannot be said to throw any direct light on the question of bacterial absorption from the intestine in relation to pulmonary infection, especially pulmonary tuberculosis.

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## BRUDZINSKI'S SIGNS OF MENINGITIS.

Two years ago Brudzinski published his paper (Wien. klin. Woch., 1908, p. 255) on the "Contralateral Reflexes in the Legs in Childhood" and more recently his article (Archives de Medicine des Enfants, 1909, Vol. XII, p. 745) entitled "A New Sign in the Legs in Meningitis in Childhood: the Neck Sign." Since the appearance of these contributions to the study of meningitis a number of clinical investigators have carefully studied their significance. Judging from their experience the phenomena described by Brudzinski are destined to be of practical value and his observations are contributions of genuine value in the bedside recognition of meningeal inflammations.

The "leg sign" consists of a concomitant reflex of the leg on one side when passive flexion of the leg is made on the other side—the identical contralateral reflex. Instead of flexion extension is sometimes noted—reciprocal contralateral reflex. Brudzinski observed the identical contralateral reflex in 6, and the reciprocal contralateral reflex in 1 of 8 cases of tuberculous meningitis, and the identical contralateral reflex in both of 2 cases of cerebrospinal meningitis. In some cases the reflex was present on both sides. He concluded that in connection with other signs, such as Kernig's and Babinski's, it was useful in the differential diagnosis of meningitis. In his later paper he states that further study has still more convinced him of the value of the sign, and that it has materially aided him in the diagnosis of certain cases in which Kernig's and Babinski's signs were absent.

The explanation of the phenomenon is based on the assumption that there is a congenital tendency to bilateral innervation and that there is an anatomical connection between the centers of corresponding muscles. It is also assumed that this connection is more definite and persists longer in the legs than in the arms on account of the slighter differentiation of function in the former, and that when the cerebrum is diseased there is in infancy and childhood a tendency for the more specialized functions to revert to the younger type. The result of such reversion would in the author's opinion account for the production of the contralateral reflex.

Greco (Revue d'Hygiene et de Medicine Infantile, 1909, Vol. VIII, p. 130) who has investigated this sign states that he has never observed it in healthy children or in those ill with gastrointestinal or pulmonary diseases, rickets, acute infantile paralysis, chronic internal hydrocephalus, idiocy, or chorea. Zaimovsky (Archives de Medicine des Enfants, 1909, Vol. XII, p. 796) confirms these observations and agrees with Greco that the sign is of indisputable clinical importance in the diagnosis of meningeal inflammation.

The "neck sign" consists on the other hand of a flexion of the legs at the hips and knees and a marked flexion of the legs on the pelvis when the neck is flexed forward. Brudzinski found this sign in 20 of 21 cases of tuberculous meningitis, and in all of 11 of the cerebrospinal form. More recently Morse (Archives of Pediatrics, 1910, Vol. XXVII, p. 561) of Boston has very carefully investigated both the leg and neck phenomena and concludes from the study of 400 cases that Brudzinski and others are correct in their statements that neither sign is present in well children or in those ill with diseases other than of the nervous system, and that they are rarely observed in conditions of the nervous system other than meningitis. This writer also states that the contralateral reflex is found much less commonly than the neck sign, and that both may occur intermittently or be absent throughout the whole course of the disease. He believes, however, that their presence in an acute disease is strong evidence in favor of meningitis, but that their absence does not exclude this disease. It therefore appears that the presence of the neck sign is of positive value in the diagnosis of meningitis while the leg phenomenon on account of its greater inconstancy is less valuable.

## ORIGINAL ARTICLES

### EXPERIMENTAL NEPHRITIS.*

By ERNEST C. DICKSON, B. A., M. B., San Francisco.

In 1827 Richard Bright (1) described a series of cases in which he had found that certain types of dropsy were associated with the presence of albumin in the urine, and with certain pathological changes in the kidneys. Since that time there has been much work done in the attempt to explain these relations, and to trace out the various factors which cause them. Christian (2) divides the history of the development of our present knowledge of nephritis into five periods, as follows: 1. The period previous to Bright's report in 1827, during which there was little but chaos. 2. The period from 1827 to 1851, when Frerichs regarded all the forms of nephritis as stages in a single process, which began with the acute and ended with the contracted kidney of chronic interstitial nephritis. 3. The period from 1851 to 1879, when Weigert published his classification, based upon morphological study, in which he showed that the different conditions found were not parts of a single process, but were distinct types of nephritis, representing the varying reaction of renal structure of varying resistance, to the action of injurious substances of varying strength, acting during varying periods of time; 4. The period from 1879 to 1898, during which more careful study revealed many of the finer details, but left the main teachings of Weigert unchanged; and (5) the period since 1898, which he describes as the period of experimental research. In discussing this same question Pearce (3) says, "I do not think it is an exaggeration to say that clinical observation has added little of essential importance to Bright's original conception of eighty years ago, or that pathological anatomy has added little to Weigert's classification which has been generally accepted for thirty years." Certain it is that the most exhaustive clinical and pathological research has revealed but little in regard to such great problems of nephritis, as, the causation of edema, the relation of the chronic forms of nephritis to the acute, the relation of chronic kidney lesions to disturbances of the cardio-vascular system, and the relation of kidney lesions and function to the onset of uremia. It was in the hope of explaining some of these problems that pathologists have resorted to animal experimentation, and in this short review I wish to present the results of some of these experiments.

Although the last few years have been described as the period of experimental research in so far as the study of nephritis is concerned, the production of nephritis in animals by experimental methods is by no means confined to this period. As early as 1853 Leconte (4) noticed that certain macroscopic lesions of the kidneys were produced by the administration of uranium salts, and in the early eighties of the last century there were many reports of the production of experimental kidney lesions by such men as Welch (5), Aufrecht (6), Hofmeister (7), Charcot and Gombault (8), and many others. Various methods have been used in the production of these lesions. Siegel (9) succeeded in obtaining acute lesions in the kidneys by the application of cold, but by far the greater number of observations have been made on the effects of the injection of various renal irritants, among which are the salts of metals, the coal tar products, the anesthetics, the essential oils, alcohol, oxalates, cantharidin, ricin, snake venom, hemolytic poisons and bacterial toxins. Many interesting anatomical and metabolic investigations were carried on without, however, clearing up any of the great problems of nephritis in man, because as Bradford (10) stated in 1904, there was as yet no irritant known by which it was possible to produce in animals a condition analogous to acute Bright's disease in man, *i. e.*, an acute parenchymatous nephritis which is associated with the formation of edema. In that same year, however, Richter (11) reported a series of experiments in which he had succeeded in producing edema in rabbits by injecting uranium nitrate, and subsequently forcing water. Since that time there has been a greatly renewed activity in the field of experimental nephritis, and a number of very interesting results have been obtained.

As I mentioned before there are four great problems which the clinical study of nephritis has failed to solve. These are again: 1. The causation of edema. 2. The relation of the chronic forms of nephritis to the acute. 3. The relation of chronic kidney lesions to the cardio-vascular system. 4. The relation of kidney lesions and function to the causation of uremia.

I shall very briefly outline some of the more important investigations which have been made in the attempt to clear up these problems.

Edema, since it is one of the most striking, as well as one of the most constant phenomena in human nephritis, has naturally been investigated by many observers. Numerous theories have been advanced as to the varying factors which take part in its production, and Pearce (3) summarizes the most important of these as follows: "On the one hand are those who support the importance of hydremic plethora as enunciated by Granger-Stewart

* Read before the State Medical Society, Sacramento, April, 1910.

and Bartels, but more or less modified by later investigations as those of Roth-Schultz and others. On the other hand are those who consider hydremic plethora as secondary, and, following Cohnheim, ascribe to the injury of the peripheral capillary blood vessels the important role. With this theory is clearly associated that of Senator, who presupposes injury of the renal vessels as well as of the peripheral vessels. There is a tendency to bring these explanations together, giving each its share in a theory which ascribes the cause of edema to the combined influence of renal vessel injury and peripheral vessel injury, the former leading to the retention of water or salts or both, and the latter responsible for the increased permeability of the capillaries at the site of the local accumulation of fluid. In brief, the problem has become essentially that of the relative importance of vascular injury, hydremia and salt retention."

Since it has been shown that uranium nitrate will produce a typical acute Bright's disease in animals, with the formation of edema, the question immediately arrises, why does it do so? There is a definite water retention and salt retention during the acute stages of the intoxication, but this also occurs with various other substances which do not cause edema. There must be some additional factor which is at least partly responsible, and the question is, what is it? We can therefore see that uranium nitrate nephritis has offered the opportunity for the investigation of the following problems of edema formation:

1. Is salt retention or water retention primary?

2. If salt retention is primary, is it due to a true tissue retention, or is it due to a loss of ability of the renal capillaries (the glomeruli) to secrete it?

3. Is salt retention independent of water retention, and are both due to a loss of ability of the renal capillaries to secrete them?

4. Is there any other factor which is necessary for the production of edema?

Richter (12) concluded from his experiments that it is water retention which is primary and of more importance than salt retention. He also found that in order to obtain edema it was necessary to force water by means of the stomach tube. Georgopulos (13) found that more water than salt was retained, thus leading to a diminished salt content of the blood, indicating that water retention is dependent upon a primary disturbance of the water eliminating power of the kidney, and not secondary to salt retention; and he was unable to demonstrate a passage of chlorides into the tissues, i. e., a true tissue retention, in cases of nephritis either with or without edema. He also found that in order to produce edema it was necessary to force water.

Heinecke (14) found that edema could be produced in chromate nephritis, if he made a secondary injection of serum from an animal which was suffering from uranium poisoning, showing that there must be something additional in the uranium serum. Together with Meyerstein (15) and Takayasu (16) he showed by certain oncometer experiments that uranium, alone of all the substances investigated, produced a condition of the kidneys at a time just previous to that of the appearance of the edema, when they would fail to react to all diuretics save caffein, but would dilate to their extreme limit without showing any appreciable increase in the amount of urine secreted. They interpreted this to mean that in uranium poisoning there was first a damage of the renal capillary system which prevented the secretion of water and salts, and that after the kidneys had reached their limit of dilatation there was a damage of the peripheral capillaries which increased their permeability and caused edema.

Pearce (17) worked along different lines but arrived at the same conclusions. He found that if he poisoned an animal with potassium chromate and forced water there was no edema, but that if in addition he injected some specific vascular irritant such as arsenic, ricin or snake venom, and at the same time forced water, a definite and constant production of edema resulted. He varied his experiments by every possible control and found that for the production of edema there was necessary renal injury, vascular injury and hydremia.

Accordingly we can say that experimental nephritis has so far suggested the following points in connection with edema formation:

1. That water retention is primary, and not secondary to salt retention.

2. That water and salt retention are not of themselves sufficient to produce edema.

3. That renal injury, vascular injury and hydremia are all necessary for the production of edema.

The question of the relation of the chronic forms of nephritis to the acute is one upon which but few definite conclusions can be made. As early as 1881 Charcot and Gombault (8) reported the production of chronic nephritis in guinea pigs as a result of feeding the carbonate of lead, and in the more severe cases they found granular kidneys, polyuria, hypertrophy of the heart and inflammation of the serous membranes. Many observers since that time have attempted by various means to produce a chronic nephritis in animals with but slight success. Ophüls (18) has worked extensively with lead salts by methods similar to those used by Charcot and Gombault, but up to this time he has been unable to confirm their results. He has succeeded in producing regularly certain chronic interstitial lesions in the kidneys, but they were never more than moderate in degree, and were never accompanied by the production of albumin or casts in the urine. In this respect his results corresponded to those of Petroff (19), who found that many of the heavy metals possessed these same characteristics. Ophüls (20) has also used potassium bichromate, and has succeeded in producing quite constant areas of fibrosis in the kidney, but not lesions which would compare with those found in chronic interstitial nephritis in man. Bichromate nephritis more closely resembles human nephritis, however, in that it is accompanied by the presence of albumin and casts in the urine. Ehrlich (21) and Levadite (22) found definite fibrosis in the kidneys of white mice following the administration of vinylamine, which produces hemorrhagic necroses in the papillæ, and in one case they observed polyuria, hypertrophy of the left ventricle of the heart, and albuminuric retinitis. Many

other observers have reported the occasional production of chronic lesions in the kidneys by the use of various irritants, but the lesions have been neither constant nor characteristic, and in 1904 Bradford (10) expressed the view that an explanation of the almost uniform failures might be found in that fact already referred to, that we had no irritant which in the acute stages of poisoning would produce a condition analogous to that in acute Bright's disease.*

As in the production of edema in animals, so in the production of experimental chronic nephritis, has uranium nitrate come to our aid. In a series of experiments which I reported last year,[23] I was able to show that by the use of uranium nitrate it is possible to produce chronic lesions in the kidneys of animals, by three different methods: (1) by injecting a series of numerous small doses; (2) by injecting at intervals a series of five or six doses, each of which will produce a subacute attack of nephritis; (3), by injecting a single sublethal dose. The experiments which I reported were made upon guinea pigs, but more recently in the Pathological Department of Cooper Medical College, I have been able to produce even more marked lesions in the kidneys of rabbits and young dogs.[24] I have been able to show that diffuse proliferation of connective tissue, with shrinkage of the tubules, and marked fibrosis of the glomerular capsules, is almost constantly found after prolonged treatment by any of the methods described, and in a certain number of cases I have succeeded in producing typical granular atrophic kidneys. It is true that microscopic examination reveals a type of lesion which differs somewhat with that usually found in chronic interstitial nephritis in man, but this renders it none the less true that the condition is that of a true granular and fibrotic kidney.

Again the question arises, why does uranium nitrate produce these results? Haven Emerson[25] has found that by the inhalation of various vasodilators he was able to produce degenerative parenchymatous changes and slight interstitial lesions in the kidneys of dogs, and Pearce suggests that with this vascular disturbance as a background, the administration of some renal irritant might lead to the production of chronic nephritis. I have been unable to decide why uranium nitrate produces marked and progressive chronic lesions, while such a similarly acting irritant as potassium bichromate fails to do so, but I firmly believe that when we have explained why uranium nitrate produces edema we shall have solved the other problem. I am convinced that there is some definite relationship between damage to the blood vascular system in some part, and the production of chronic nephritis, and experiments are now being made to show whether the prolonged application of the various combinations which Pearce[17] has shown to result in edema formation, will lead to the production of chronic lesions in the kidneys.

The fact that we have been unable to produce at will chronic lesions in the kidneys of animals, has of necessity limited the study of the relationship existing between hypertrophy of the heart and chronic nephritis. Charcot and Gombault,[8] and Ehrlich and Levadite[22] found hypertrophy of the left ventricle of the heart in those cases in which they obtained extreme granular kidneys. Bradford,[26] Passler and Heinecke,[27] Sampson and Pearce,[28] and Janeway[29] have approached the problem by simulating the local renal condition of chronic nephritis by mechanically reducing varying amounts of the kidney substance, and they have obtained some very interesting results. Passler and Heinecke[27] found that in certain animals which survived the repeated surgical operations, there resulted the peculiar cachexia of chronic renal insufficiency, together with polyuria and hypertrophy of the left ventricle of the heart, and that in these animals there was a definite, persistent rise in blood pressure and greatly increased susceptibility to arterial spasm. As Pearce[3] says: "These results suggest that the heart hypertrophy is due to increased work resulting from the circulatory disturbances caused by the tendency to arterial spasms, and that the vascular spasm in its turn is due to the effects of retained toxic substances." Janeway[29] has adopted the Riva Rocci cuff so that he can take daily reading on dogs, and he has shown that following the reduction of kidney substance by the Carrel method of ligating the branches of the renal artery, a rise of blood pressure of as much as 35 m.m. of Hg. has resulted.

In my own series of experiments I have obtained results which are as yet merely suggestive because of the limited number of my observations. In at least two guinea pigs I observed a very definite polyuria,[23] and in a number of rabbits the heart appeared to be hypertrophied, but the difficulty of determining a normal standard with which to compare rendered my observations more or less uncertain. In my series of puppies, however,[24] careful relative measurements of the heart weight and the body weight showed that in every case examined there was a definite increase in the heart to body ratio, corresponding in each case to the severity of the kidney lesions. But in this series the number of observations is much too small to allow of any broad conclusions.

We can, therefore, see that the problems of this question are practically open. Hypertension and heart hypertrophy have been obtained by the artificial decrease of kidney tissue, and probably also by the production of chronic lesions in the kidneys by lead, vinylamine and uranium nitrate, but the explanation of the relationship existing between hypertrophy of the heart and chronic lesions in the kidney, is as yet unsolved.

In closing there is just a word to be said about uremia. Unless we consider as a type of uremia that condition of coma which so often occurs before the death of animals suffering from experimental

* Since the preparation of this paper a very interesting series of observations have been reported by Rautenberg in the Deut. Med. Wochenschr. for March 24, 1910, p. 551. He obstructed one ureter of rabbits by ligating for several days, after which he re-established the passage by making an anastomosis between the ureter and the bladder. After some weeks he excised the healthy kidney and found that the animals survived in some cases for many months. In those cases in which life was prolonged, there always developed polyuria, high blood pressure, and a cachexia from which the animal eventually died. In those cases which survived for more than a year there was more or less marked sclerosis of the aorta, and in some cases true aortic aneurysms, both of which he believes are secondary to the high blood pressure.

nephritis, the condition has not been produced experimentally. However, a few very interesting observations have been made. In very many of the cases of extreme intoxication, as well as in those cases where excision of the kidney substance has been performed, there is marked and fairly early vomiting and diarrhoea. The metabolic studies of Pearce, Hill and Eisenbrey,[30] as well as those of Siegel,[31] have shown that though there may be a definite decrease in the nitrogenous excretion of the kidneys, there is no corresponding increase in the amount of nitrogen excreted in the feces, so that the gastro-intestinal disturbances cannot be due to a vicarious excretion of nitrogenous substances into the bowel. Moreover, it has been shown that in certain cases of tubular nephritis, to which group uranium and chromate nephritis belong, there may be marked gastro-intestinal disturbance when there is no appreciable decrease in the nitrogenous excretion by the kidneys. From this it would seem that the gastro-intestinal disturbance must be due to some non-nitrogenous substance which is normally excreted by the tubular epithelium of the kidneys. In this connection Pearce[32] has shown that in the urine of normal dogs there is some substance which, when injected intravenously into normal dogs, will lower the blood pressure, that in the urine of dogs suffering from tubular nephritis this substance is absent, and that in the serum of dogs suffering from tubular nephritis this substance is present. He has not yet determined what this depressor substance is, but it is possible that its vicarious excretion into the bowel is responsible for the gastro-intestinal disturbances, and it is also possible that it is this or some similar substance which has to do with the onset of uremic symptoms.

In this necessarily very brief resumé of the subject, I have been unable to do more than barely touch upon some of the more interesting and recent observations that have been made. However, I hope I have been able to show that by means of experimental research, observations are being made which must eventually do much towards clearing up many of the unexplained phenomena of Bright's Disease.

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## NEPHRITIS OF BACTERIAL ORIGIN.

By JAMES J. HOGAN, M. D., Vallejo, Cal.

The presence of microorganisms in the urine of a person suffering with all the clinical symptoms of nephritis does not prove that they are the direct cause of the attack, but it is reasonable to suppose that either the organism itself or the toxins it produces are causal factors in the production of the types of nephritis that clear rapidly on the disappearance of the organism.

Certain types of microorganisms are capable of producing toxic substances to a varying extent; for instance, the different staphylococci belong to the type of the least toxic, while some types of the streptococci, pneumococci and others, although present in smaller numbers, produce toxins of the most virulent type. This would explain why the presence of some in the urine produce no symptoms and others give a true picture of nephritis.

It has been proven by Richter, Heinecke, Dickson, Pearce and others that any type of nephritis, from the most acute to the chronic interstitial form, can be produced by the injection of varying doses

of some salts, as uranium nitrate, arsenic and potash chromate, and the acuteness or chronicity of the condition could be regulated by the size of the dose, the interval, and the period over which it was continued. That this same thing does occur in the course of many of the acute infections, producing acute nephritis, is not disputed by many, and that the continuation of the infection may produce any of the chronic types is reasonable to assume.

Now the point I wish to make is this: nephritis from the most acute type to that of chronic character is simply a symptom of a circulatory change taking place in the kidneys, and the intensity of the attack is in proportion to the amount or degree of virulence of the toxin.

Martin H. Fisher's work on the "Nature and Cause of Edema" gives us the most reasonable explanation of the train of symptoms that follow the injection of the salts of some metals and the circulation of the toxic products of bacterial growth. He has shown that the first effect is the production of an acidosis in the part, this producing a change in the colloids; they absorb more water and swell, the consequent result is a mechanical process. The kidney being an organ surrounded by a firm capsule, this swelling can only go so far when the pressure of the increased fluid forces the blood out of the kidney and a partial or complete anuria results. As the blood is unable to get rid of its toxic contents through the kidneys, they circulate through the system and local and general edema result from the same cause as started the original trouble in the kidneys.

I mention Fisher's work to you for the reason that he has proven to the satisfaction of the most prominent physiologists in Europe that his explanation of the nature and cause of edema is the right one, and also to call your attention to the fact that his work has never been mentioned in the recent work of men who have been producing nephritis and edema in the experimental laboratory.

In the past two and a half years I have made a bacteriological examination of 1225 specimens of urine, and of this number 26 were from different types of nephritis. Of the 26 we demonstrated by culture, organisms of different types in 17 and in 9 no growth was obtained. The organisms found were the colon type, pneumococcus, streptococcus type, staphylococcus, typhoid and a diplococcus that I have not been able to classify. This last one I found in three cases, one of hematuria and two chronic types with symptoms of the interstitial form. It grows freely on all media, is gram positive, surface growth on agar resembling the colon type and decolorizes and peptonizes litmus milk. Nicholls, in the Montreal Medical Journal, 1899, p. 161, states that in 45 cases of chronic nephritis he found a minute diplococcus in 29.

That my findings have not been out of line with other workers in the same field is shown by identical findings of Nicholls, the co-editor with Adami in his work on Systemic Pathology which was published recently. He found in 32 cases of acute nephritis, bacteria present in 28, and in 45 cases of chronic nephritis of all types, a diplococcus in 29 and a bacillus in 4. The source of the bacteria in the chronic types he says is difficult to determine, but he remarks that in 41 per cent of these cases there was a definite history of preceding gastro-enteric disturbance.

*Treatment.* Of the treatment of the acute types occurring in the course of the acute infectious diseases there is little to say. As a rule they clear without leaving any permanent change. But in those of the more chronic types we should make it a rule to culture the urine, and in the event of obtaining a growth, make an autogenous vaccine. While the results of vaccine treatment are not always brilliant, the perfectly marvelous clearing up of all symptoms in some cases that have resisted all other lines of treatment should lead us to give this type of patient at least a chance.

In closing I wish to say that culturings of catheter specimens of urine in patients suffering with nephritis and the subsequent use of an autogenous vaccine, if microorganisms are found present, will frequently give you the most brilliant results in a type of case that formerly was hopeless.

## HEMATURIA: AN INITIAL SYMPTOM OF CHRONIC NEPHRITIS.*

By R. L. RIGDON, M. D., San Francisco.

Under the headings of essential hematuria, idiopathic hematuria, symptomless hematuria, etc., have been grouped a class of renal bleeding, the cause or causes of which were unknown. By the aid of newer methods of examination, chiefly ureteral catheterization, and more careful and complete microscopic examination of extirpated or autopsied kidneys, much additional light has been shed upon this obscure field of renal pathology, and today we are able to separate some of these so-called idiopathic hematurias into rather definite groups and to more properly classify them.

Much has been done also tending to show the exact origin of the hemorrhage in these cases. It has been proven that the hemorrhage may occur (1) from the substance of the kidney, (2) from a renal papillæ, or (3) from the mucous membrane of the kidney pelvis.

Our paper to-day has to deal with hematuria of interstitial nephritis. We have further limited our paper to renal hematuria as an initial symptom of chronic nephritis, thus excluding those hemorrhages that occur late in the course of the disease and are so well known. That the initial symptom of interstitial nephritis might be a hematuria has been known in a vague way for many years but not until 1897 was the definite causal relationship somewhat fully worked out and the claim established. Since that time so many cases have been examined and carefully reported that to-day the question is raised out of the domain of argument and placed among those that are admittedly established.

Another question which gave occasion for much argument was as to whether chronic interstitial nephritis was always a bilateral affair. At first the affirmative was almost universally upheld, but after the introduction of the cystoscope, and the great

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

advances of surgery in the latter part of the last century when the kidney began to be frequently invaded by the surgeon, the belief gradually grew that in certain cases the disease was unilateral. Perhaps this question is not at present fully determined, but it seems very probable that a one-sided interstitial nephritis is not alone possible, but that it is not altogether uncommon. The explanation of this fact seems to lie in a difference in etiology for the ordinary bilateral and unilateral affections. So far as my personal knowledge goes this claim to a one-sided interstitial nephritis rests more upon clinical than upon pathological findings.

Chute, in the *American Journal of Urology*, Vol. III, 1907, in a discussion of hematuria in chronic nephritis, takes up this question and presents a partial classification which has much to commend it. He calls attention to the well known fact that in chronic Bright's the kidney lesions are due to toxins which, acting through the blood stream, necessarily produce changes in both kidneys, and give rise to the usual urinary picture of chronic nephritis. He further shows that Rovsing called attention to the fact that in some of his cases of chronic nephritis, local infection, rather than a circulating toxin, played a leading causative part and that in these instances the nephritis might be confined to one kidney or part of one kidney. He also showed that "these cases of nephritis of infectious origin gave a picture under the microscope that could not be distinguished from the interstitial or parenchymatous nephritis of toxic origin." Again, Chute states that in some of the cases due to infection, the infectious agent may have disappeared at the time of examination and yet the interstitial tissue changes remain.

His classification, therefore, is into (a) hematuria in cases of ordinary chronic nephritis of toxic origin; (b) hematuria in chronic nephritis of infectious origin in which the evidences of infection, i. e., pus and bacteria, are still present; (c) hematuria in chronic nephritis of infectious origin in which the urinary evidences of infection have disappeared but the interstitial changes remain.

It will be readily understood that should the infecting agent attack both kidneys simultaneously a double nephritis might be induced, but should the infection attack but one kidney then the changes would be unilateral. Further it is conceivable that an infection might be engrafted upon a toxic nephritis. When we consider these possibilities, it is apparent that under some circumstances a definite discriminating diagnosis may be almost impossible.

The hemorrhage in these patients having interstitial nephritis has certain characteristics. It is an *early symptom* according to nearly all observers. Fenwick says that in his experience it is the first symptom, antedating by years in some instances, the ordinary signs. Fowler reports a patient who had suffered from bleeding for four years and at his examination no signs of nephritis were found, the symptoms being interpreted as indicating a small tumor in the kidney pelvis. Nephrectomy was performed and microscopical examination showed chronic interstitial nephritis as the only discoverable lesion. Caspar says that in hematuric nephritis, hematuria may be the first symptom and may last for years before the onset of the ordinary signs.

The *hemorrhage* may be *constant* or *intermittent*. Cases are reported in which several years have elapsed between attacks of hematuria. At present I have a patient under observation who has had recurrent attacks of hematuria, left sided, for several years, with none of the other signs of tumor, tuberculosis, stone, etc. As time passes, I anticipate he will develop either a tumor or a nephritis. On the other hand the hemorrhage may be continuous over a long period of time. One case previously reported by me bled almost continuously for a year.

As a rule the *hemorrhage* is *rather profuse* so that it shows clearly upon microscopic examination. The blood-making power of these patients is good, however, and pronounced anemia is the exception rather than the rule. That marked anemia may occur is shown in the cases of Chute, Fowler and one of my own which was formerly reported.

The almost universal testimony is that in these cases the *hemorrhage* occurs from *first one kidney* and then *the other*, although occasionally it may remain unilateral. In my limited experience it has remained unilateral.

Often enough the *hematuria is painless*, the attention of the patient being attracted to it by the bloody urine. Sometimes, however, more or less pain may be present. This is usually of a dull, aching character, felt in the loin and has not a marked tendency to radiate. Rarely clots form and these in passing may give rise to ureteral colic.

Most writers upon this subject state that the usual urinary signs of nephritis, low specific gravity, albumin and casts are absent, but Caspar maintains that by making use of sufficiently delicate tests over a length of time traces of albumin will be found; careful search will show casts also. But failing to find these elements, even after prolonged search, does not exclude interstitial nephritic changes, for the case may be one of so-called nephrosis circumscripia. In this latter form of the disease, the changes may be confined to one kidney or to a section of one kidney.

I wish to report two illustrative cases. The first case was reported at the last meeting of the Nevada State Medical Association. Since that time some additional information regarding it has been obtained. I will omit details.

Mr. R. consulted me August 9th, 1909. Age 46. Family history negative. Personal history negative, except has been a heavy, continuous drinker until within the last year. Painless hematuria began three years ago and continued for three weeks, then ceased and did not recur until three months ago, since which time it has been continuous. No other symptoms. General appearance good, weight 174. Heart and lungs normal. Blood pressure 114. Abdominal palpation negative. Repeated cystoscopic examinations showed vesical mucosa normal, ureteral orifices normal, blood escaping from the left ureter. Catheters introduced and separate urine obtained. That from the right kidney normal, that from the left bloody and albuminous, no casts. No bacteria found in either specimen. Function of each kidney practically normal. No tuberculosis by pig inoculation. No stone by X-ray. Kidney shadows

normal in size. Advised medical treatment. This was tried for several months but without avail. Operation decided upon and on November 30th, 1909, nephrotomy was performed. Left kidney exposed and delivered upon back. Slightly lobulated but otherwise normal in appearance. An incision was made along Boerdel's line freely exposing the pelvis. No bleeding points could be seen, although veins of pelvis were slightly congested. Section removed for examination. The kidney wound was then closed, the capsule was turned back, the fatty capsule stitched over kidney, and wound through loin closed except for cigarette drain to kidney. Uneventful recovery with cessation of bleeding. Examination of section removed showed marked arterio sclerosis, glomerulae in various stages of hyaline degeneration, many small areas in which tubules are collapsed and in which there is considerable cellular infiltration and fibrous tissue.

Diagnosis, moderate chronic nephritis. At my earlier report of this case which was before operation, I made a tentative diagnosis of renal varix, but this was disproved and the lesion was shown to be nephritis.

Case 2. Mr. C. C. Consulted me October, 1909. Age 49. Father died of chronic bronchitis, mother of pneumonia.

Personal history: Never sick, except la grippe in 1908. Following this had hernia for which was operated. Denies venereal. Had eruption of foreskin in 1904 for which was treated and recovered in a week. Took no internal medicine.

In July, 1907, noticed urine was bloody. This lasted for a week and was unaccompanied by pain. He knew of no cause for the onset of his trouble unless it was worry. He was in the Charite Hospital, Paris, for seven weeks, during which time he was on a milk diet; took tannin. After leaving the hospital he remained well until February, 1909, when painless hematuria returned. At first it was slight but in a few days became more pronounced and has continued up to the present time. Since February, 1908, has had to arise once or twice at night to urinate, but stream is free and no pain. He is now well nourished; heart normal; lungs normal; abdomen large, palpation negative; penis and testicles normal; prostate normal per rectum; no residual urine.

Cystoscope: Bladder mucosa normal. Ureteral orifices normal. Prostate projects slightly into bladder. Both ureters catheterized. Urinary secretion very free. Urine from left kidney bloody, from right clear. Functional tests, indigo carmin and phloridzin, function normal and both sides equal. Repeated examinations gave parallel findings. Uranalysis. Bladder urine: blood, albumin, no casts, no pus, no epithelium. Right kidney: clear, acid, no albumin, no casts, no pus, no blood. Left kidney: cloudy, acid, albumin present, no casts, many pus cells, many blood cells. X-ray of urinary tract was made. The report by Dr. Cooper says, "There are no abnormal shadows in the region of the kidneys, in the line of the ureters, or in the bladder. The right kidney outline is normal. The left kidney outline is not distinguishable." Moro reaction negative. Wasserman reaction positive. Thinking that the bleeding might come from the pelvis of the kidney, the ureter catheter was introduced into the left kidney pelvis and 5 cc. of adrenalin were injected. It produced no visible effect upon the bleeding. So far in our examination we had eliminated tuberculosis, stone and very probably tumor of any considerable size. The possibility, however, of a slow growing tumor could not be dismissed. The presence of the positive Wasserman indicated a line of therapeutics and the patient was put upon iodide of potash. Two weeks later, Dec. 7th, 1909, the hemorrhage ceased and has not recurred. I believe the cessation of the hemorrhage after the ingestion of the iodide was a coincidence and not the result of the medication, but about this there may be room for a difference of opinion. Last week I cystoscoped the patient again with the following result:

Mixed urine—Albumin none, no casts; few cylindroids; pus, few cells; blood, none.

Right kidney—albumin, none; casts, none; pus, small amount; blood, few cells (probably traumatic).

Left kidney—albumin, none; casts, hyalin and granular; pus, none; blood, none.

The finding of the casts at this examination on the left side would strongly point to the presence of some form of nephritis, probably interstitial.

In the elucidation of this case there are a number of questions that present themselves which time alone can solve. Tumor cannot be absolutely excluded, papillary angioma may be present, angioneurosis is a possibility. After considering all these it is my opinion that we have to deal with a case of hematuria as an initial symptom of chronic nephritis.

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## THE DIETETIC TREATMENT OF NEPHRITIS.

By RENÉ BINE, M. D., San Francisco.

Since the year 1827, when Richard Bright published his "Report of Medical Cases with a View of Illustrating the Symptoms and Cure of Diseases by a Reference to Morbid Anatomy," until recent years, little was added to our knowledge of the normal and pathological physiology of the kidney, as compared with the progress made in the study of other organs. Therefore, the treatment of nephritis has rested solely upon empiricism. Careful clinical observation, as well as work on experimental nephritis, has lately done much towards explaining the various symptoms of nephritis, and placing its treatment upon a scientific basis.

The diagnosis of nephritis is quite frequently based, primarily upon general symptoms, brought about by impaired renal function. The degree of kidney disturbance can only be estimated by the intensity of these symptoms. On the other hand, such a finding as albuminuria is of lesser importance, for it may be absent in a rapidly fatal case, or be intense in an otherwise healthy person. As soon as the disease process has seriously damaged the eliminating structures of the kidney, certain substances, normally discharged, accumulate in the fluids and tissues of the body. After an increase of urea in the blood of advanced renal cases and of nephrectomized animals had been demonstrated, the term uraemia was applied to the resulting train of symptoms. But the poisonous qualities of urea being afterwards doubted, during the last half century, practically every substance, the elimination of which could be hindered by the kidney lesion, was in turn held responsible. However, of recent years, uraemia was attributed to the presence in the system, of the combination of retained products of metabolism.

In the midst of this darkness, attempts at rational

therapy were made, with the result that milk, and milk alone was earnestly advocated. Meat was objected to by some, because its albuminous molecules were later transformed into urea, and by others because of the possible formation of toxic derivatives in the intestines. Milk was supposed to form less toxic albuminous combinations and derivatives, and thus, it was thought, its beneficial action was explained. On the other hand, it was occasionally found that, if long continued, a milk diet not only proved repulsive to the patient, but that in certain instances produced digestive disturbances, unpleasant general symptoms, emaciation, etc., all of which could be overcome by adding meat to the diet. Nevertheless, there were no established facts to go by, and any change from the classical milk diet was usually made with trepidation.

Recent metabolism experiments have shown that the loss of renal permeability is seldom complete, and that this loss of permeability may be only for certain substances, while the others may be eliminated as in the normal. As a general rule it may be stated that in most cases of acute nephritis, the N-elimination is seriously impaired; only in exceptional cases, occasionally even severe hemorrhagic ones, is it found normal. In chronic cases, the N-elimination varies from time to time, and it can readily be understood that a fatal N-accumulation would soon occur, were the elimination permanently discontinued. In acute nephritis, the kidney is usually unable to get rid of much water, and the anuria is seldom relieved by so-called attempts at flushing out the kidney. In fact, the spontaneous increase in diuresis is the first and surest sign of recovery or else of transition to a chronic course. There are, however, cases of acute nephritis, especially those occurring in the course of acute infectious diseases, where the water-elimination is not interfered with. In chronic parenchymatous nephritis, there is usually a decreased elimination of water; in interstitial nephritis, the reverse is true.

Of particular interest is the Cl-elimination in nephritis, in view of the role ascribed to it in the production of edema. In cases of acute nephritis, at the height of the disease, in severe cases of chronic parenchymatous nephritis, and during the acute exacerbations of, as well as during the periods of failure of cardiac compensation of chronic interstitial nephritis, a marked retention of chlorides occurs. All these conditions are accompanied be edema, or are looked upon as predisposing to edemas. Here, we naturally wish to know whether (1) the water retention be the primary event, either as a result of weak circulation, abnormal permeability of the vessels or of a tissue attraction, salt being secondarily drawn into it to overcome the osmotic pressure of the blood, or whether (2) the retention of Cl be the primary event, the water following into the tissues, according to the law of osmosis. If this retention be primary, is it due to chemical changes in the tissues, as claimed by Acahrd, Loeper, and Laubry, who emphasize the ocurrence of Cl retention in diseases other than nephritis, or is it due, as claimed by Widal, Strauss, etc., purely to renal impermeability? It may be that the water and Cl are simultaneously retained as a result of glomerular injury.

A review of the voluminous literature on the water and salt excretion in nephritis, shows that these questions cannot be positively answered now, but that they, nevertheless, deserve consideration at our hands in the treatment of our cases. For, clinically, we can distinguish symptoms due to Cl retention from those due to N retention.

V. Norden agrees with the French writers, who label as "petite uremie," such conditions as, the high blood pressure, cardiac hypertrophy, headaches, general lassitude, weakness, anorexia, gastro-intestinal disturbances, cachexia, etc., due to the nephritic toxins, instead of reserving the term "uremia" for the state of advanced toxaemia, characterized by clouded mentality, somnolence, convulsions, etc.

Widal has given the name "chlor-uremie" to the symptoms due to a Cl retention. Here we find edemas of the subcutaneous tissues, larynx, serous cavities, as well as the so-called pre-edema, where without any visible watery accumulation in the body, an increase in weight points to its presence. Chloruremie also explains various headaches and eclamptic seizures, as well as certain dyspnoeas, unaccompanied by organic lesions, which disappear after greater or lesser elimination of water and salt. Many instances of severe vomiting and diarrhoea, are attempts of the system at eliminating large amounts of NaCl.

The N-retention and the Cl-retention run an independent course, but at times co-exist. The N-retention is the most dangerous, but here also, much can be done to prevent its occurrence.

From the foregoing, it will be easily seen that every case of nephritis calls for individual study, and that it is impossible to prescribe a diet that will apply, with equal benefit, to all patients with Bright's Disease. It is only after having given this lengthy introduction, that I feel that it will be understood, that I am not laying down any hard and fast rules in a recital of a few generally accepted points in the dietetic treatment of nephritis.

*Acute Nephritis.* At the beginning and during

the height of an acute nephritis, the most rational treatment is starvation, absolute or relative, according to the severity of the disease. At times, for two or three days, the patient may be allowed but one-half liter of milk, and but sufficient ice to suck, to allay thirst. We know that at this period, water is the most difficult substance for the kidneys to eliminate, and to force a rigid milk or even water diet, is to overload the blood with fluid, and to favor the production of edemas. As soon as the amount of urine has begun to increase, a milk diet may be resorted to. Milk is a food that is easily assimilated, leaving but a small residue, lowering the total of intestinal toxins, and, in proportion to its nutritive value, reducing to the minimum, the digestive work of the gastro-intestinal mucous membranes. In addition, because of its diuretic properties, due to the combined action of its water, salts, and lactose, it is more active and less irritating than any drug that could be prescribed. Furthermore, milk contains on an average of but 1.6 grams of NaCl to the liter, and to this factor is undoubtedly due a great part of its beneficial action, in cases accompanied by edema. But as the fairly large amount of phosphoric acid present in the milk, is eliminated with difficulty by the kidneys, it is better to add to it, a little carbonate of calcium, thus reducing the excretion of phosphorus in the urine.

As the patient improves, it is unwise to rely upon three or four liters of milk, with its 110 to 160 grams of protein producing 30 to 45 grams of urea, for the maintenance of nutrition. It is better not to exceed 1½ liters of milk, adding ⅜ of a liter of cream (375 cc.) to it, thus affording a little over 2000 calories, i. e. with ½ the amount of protein, an amount of nourishment equal to 3¼ liters of good milk.

Gradually, cereals, gruels of oatmeal, barley, sago, rice, and farina, as well as cream cheese, may be added to the diet; likewise, fruits, such as apples, oranges, grapes, and berries, or their juices. With the disappearance of the albuminuria, green vegetables and even meats are given.

In cases where the symptoms of chlor-uremie are in the foreground, even a milk diet affords too great an intake of NaCl, and Widal, Strauss and others, here use a diet still poorer in salt.

Widal includes the following articles in his salt-restricting diet:

*Bread:* when made without the usual large amount of salt, as patients get along nicely without bread where special baking cannot be obtained.

*Meats:* (0.5 gr. NaCl. to the pound) served raw, broiled, roasted or boiled, without the addition of salt, but butter, mustard, lemon or a trace of vinegar may be added. Red meats, beef, and mutton are just as good as white meats. Only fresh water fish is permissible.

*Eggs:* (0.07 Cl per egg) raw or soft-boiled, without any salt. The yolks may also be employed in the sauces used to modify the taste of the various dishes of the menu.

*Butter:* (0.1 to 1.4% NaCl) if the amount be limited to 50 gr., a maximum of 0.7 gr. of NaCl is given.

*Potatoes:* boiled, baked, mashed, or in salad form.

*Rice:* with milk and sugar, or cooked in various forms.

*Vegetables*: peas (cooked with butter or sugar), carrots, string beans, lettuce, celery, water-cress, artichokes, salads with oil and a small amount of pepper and vinegar are allowed.

All raw fruits, pastry (without salt), jelly, honey, tea, coffee, chocolate, lemonade, syrup, and cider are likewise permissible.

*Chronic Parenchymatous Nephritis.* Here the diet will necessarily be subject to many variations. In severe cases, the same treatment as in acute nephritis will be beneficial. In a limited number of cases, no diet will avail, whereas, in a third group, the rules applicable to the chronic interstitial form will also apply. It must be remembered that we are dealing with a disease impossible of cure, lasting frequently over a long period, where our aim must be to maintain the general nutrition on as high a plane as possible, and, in so far as compatible with the renal functions, allowing more or less latitude in the diet.

*Chronic Interstitial Nephritis.* During the acute exacerbations of this disease, the treatment is that described under acute nephritis. In hopeless cases, it is cruel to torture patients with a rigorous diet, and their desires and tastes should be gratified as much as possible. What follows, naturally applies to the average case of contracted kidney.

While we unreservedly condemn the enforcement of a milk diet over a long period of time, we do not mean to exclude it from the diet of chronic cases. In fact, it is good practise to have the patient drink a liter of milk per day. As far as the total amount of fluids is concerned, not more than two liters, and if possible, only 1½ liters should be taken. We well know, that in this disease, sooner or later, cardiac weakness ensues, and it is our duty to postpone this as long as posible. How irrational, therefore, are those, who, actuated by desires to wash out the kidneys, continually impose a strain upon the cardiac muscle. In view of the fact, that a diminished elimination of solid urinary constituents occasionally (and only occasionally) follows a restricted fluid intake, the patient should be permitted to drink, on one day of each week, as much water as he chooses; or else, in the presence of a strong heart, if the patient prefers, he may, once in two or three months, drink two to three liters of fluid per day, for about two weeks. Of

course, weak tea, cocoa, afe au lait, and buttermilk are included in this dietary.

In addition to the above, a mixed diet is to be employed. The nitrogenous food should be distributed throughout the day, being guided in its administration by the symptoms of the patient and by the pulse (i. e. blood pressure). Meats are allowed, usually, once a day. In the past, white meats and fish have been always preferred, but of late, it has been claimed, that red meats were no more harmful than the others. Beef, especially boiled, certainly contains less extractives than the ordinarily prepared white meat. Bacon, ham, tongue, etc., may be given, whereas, brains, liver, kidney, and spleen, should preferably be omitted from the dietary.

Eggs require no special mention. They are classed as a light variety of nitrogenous food. Two or three a day may safely be consumed.

Butter, cream, oil, cereals, and farinaceous foods, gelatins, fruit jellies, and practically every kind of fruit are allowed. Of the vegetables, radishes, horse-radish, and perhaps onions and celery should be forbidden. Asparagus in moderate amounts is not harmful. Condiments, spices, pickles, fried food. rich sauces, meat soups, and meat extracts should certainly be avoided. Sweets should be sparingly eaten, chiefly on account of the danger of digestive disturbances.

In closing, I would warn against trying to make any one man's special diet, fit every case of chronic Bright's. In each individual case, we must feel our way; we must be guided by the nutrition, the state of the patient, all of which are more important than the albuminuria, which always increases on changing from one diet to another, and which at the best, varies but slightly, when one considers, in grams, the amount of albumin eliminated.

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Other references to the experimental side of the question are omitted, being included in the paper dealing particularly with that question.

### Discussion.

Dr. G. L. Eaton, San Francisco: In relation to the hemorrhagic conditions found in interstitial nephritis, it is a question whether or not, if these conditions were permitted to exist long enough, there would be a pathological involvement of the kidney. We know that in hypernephroma with hemorrhage long after the nephritis, will be followed by a growth in the kidney. I had a case about eight years ago where there was a hematuria which was periodical about every six months but at the end of eight years it had ceased. Upon careful observation and catheterization and X-ray, a tumor was noticed in the region of the kidney which was found to be some hypernephroma. Was that interstitial condition a forerunner of the hypernephroma? There is no doubt but what infection had a tendency to produce an interstitial nephritis of unilaterial origin. I could state a case which would bear this out.

## PELLAGRA; WITH DEMONSTRATION OF A CASE.*

By W. A. CLARK, M. D., San Leandro.

In this paper I shall only endeavor to present very briefly, for those who may not be very familiar with the disease, the salient points of pellagra, and if interested, ask you to take up the time allotted in the examination of this patient, rather than consuming it by giving you what you may obtain as I have done, from the literature.

The disease has been particularly prevalent in Italy, the first description being given in 1735. In 1863 the first cases were reported in the United States.

It is endemic, and is neither contagious, infectious nor inherited. It affects both sexes, any age, and particularly those who labor in the fields.

That damaged corn, as the chief etiological factor in the production of the disease, is asserted and as warmly disputed, it seems probable that the cause of the disease is unknown, except that an unhealthy condition of the mouth and teeth may allow the entrance of the specific poison.

The symptoms are as numerous as inconstant, except the skin manifestations, which are the local expression of a systemic disorder and, in the terminal stage, there is oposthoponos, and occasional temperature.

The prodronal symptoms are languor, general malaise, epigastric pain, diarrhea or constipation, loss of appetite and vertigo. The tongue may become coated or reddened and papillæ prominent, and there may be a loss of membrane, and even ulceration. The papillæ sometimes become the seat of bluish-black pigmentation. The cutaneous lesions usually develop quite suddenly in the early Spring, and occasionally without previous warning. The eruption is usually symmetrical and confined to those portions of the body exposed to the sun. The face and ears may be affected simultaneously and there is usually a collar of pigmentation around the neck, except where the chin shades it. If shoes are not worn, the dorsal surfaces of the feet are affected, missing the heels, giving what is called a "bootleg" appearance. The backs of the hands usually express the typical expression of the disease. The eruption at first is erythematous, spreading from the radial to the ulnar side, the palms being seldom affected. There is usually a sharp line of demarkation at the wrist and the second joint of the fingers. At first the color is dull and red not unlike a sunburn, and indeed I can recollect several of these patients before the disease was called to my attention by Dr. Blue, whom I thought suffered very severely from mere sunburn. The skin is swollen and a burning rather than an itching sensation is felt. The color deepens and does not disappear on pressure, and soon becomes a chocolate or sepia shade. The erythema disappears in about two weeks, with exfoliation. The eruption may become vesicular or even bullous followed by desiccation and crusts. The attack fades, leaving the skin permanently pigmented, thickened, and roughened, a condition readily distinguished at post mortem. The symptoms disap-

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

pear and the patient is comparatively well until the following spring which ushers in another attack. In these succeeding attacks the erythema usually is not so severe yet the permanent changes become more marked. The gastro-intestinal and mental symptoms becoming more severe. The increase in the salivary secretion and gastro-intestinal symptoms being particularly marked. Melancholia or dementia develop and the patient, after an unhappy existence, develops oposthotonos, and he dies from exhaustion.

I have made no attempt to go into the differential diagnosis, the nervous phenomena as the result of chord degeneration, the morbid anatomy nor the treatment, as these points are exhaustively treated in our text books, and particularly in a recent article, with excellent illustrations, by Hyde. If this brief description will increase your pleasure in examining this patient, I shall indeed be grateful.

### Discussion.

Dr. H. D'Arcy Power, San Francisco: The only thing which I desire to say is that I am more and more impressed, the more I have seen of actual cases recently, with the idea that we have all had these cases before us many times without recognizing them. From the time I saw the first case exhibited by Dr. Blue, it has been easy for me to go back in my mind over my past records and recall at least 2 cases, which were undoubtedly cases of pellagra, of whose nature I then had no idea. I am quite sure that if we all pay attention to cases now under our observation we will find many of these cases. I am pretty sure that pellagra is not such a recent importation as some imagine. Another point of which I wish to speak is the importance of getting more knowledge than we have in regard to its etiology. There is much in the general character of the distribution of pellagra to suggest that the fundamental trouble is in the nervous system, that it is a neurosis finding its expression in lesions of the skin and mucosa. Until we know more concerning the nature and mode of action of the poison we have no chance of dealing with it therapeutically. The first thing of importance, then, is that we all learn as much as possible of the disease with a view of its better recognition and secondly to learn more concerning the etiology with the view of finding the right treatment.

Dr. Creighton Wellman, Oakland: I have examined both the cases presented by Dr. Clark. One is without question a case of pellagra although the eruption is far from typical—it lacks the classical sharpness of outline. The line of demarcation should be definite where the sleeve ends and above the collar bands. I think that the matter of eruption in these cases has been emphasized too much. It is one of the minor characteristics of the disease. All of the symptoms in all the textbooks have been printed under the description of pellagra but the details of the symptom complex are not always important. You have the general nervous condition which simulates very closely general paralysis of the insane. You have also the denuded condition of the intestinal tract from the mouth to the anus. The symptoms accompanying this condition can be imagined. The stools are rather characteristic, of markedly foul odor and of a peculiar greenish yellow color. A striking thing is the denudation of the buccal surfaces, the so-called cardinal tongue, etc.

Dr. W. A. Clark, San Leandro: As to the etiology of pellagra, we know nothing definitely as yet. Most authorities lean toward maize in corn eating countries. Whether some specific organism is the cause, I do not know. The skin lesion in these cases is possibly the least important thing which we have to consider. The gastrointestinal and nervous symptoms are the predominating ones. Another important fact is the mental condition of these patients. This man, who undoubtedly has pellagra, was received in our wards as a melancholic—which is probably the final expression of the disease. In looking back over the period of time during which I have been at the County Hospital, I remember several of these cases of low mentality showing the expression of a disease such as this. I could never understand why it was that these people during the spring months were subject to such severe types of sunburn. I am under the impression now that these must have been cases of pellagra. In the second case which I showed, which is only a border line case, the arteries are quite good, the heart is quite good and the nervous symptoms are the most pronounced. The absence of the superficial and deep reflexes cannot be explained quite satisfactorily unless the man has pellagra. Those of us who have charge of the county hospitals and asylums may be able to look back over some of our cases of melancholia, and now diagnose them as pellagra. I have no doubt but that the friends and relatives of these so-called melancholic patients, who have been discharged, have accused us of abusing these patients, judging from the looks of the skin lesions. An interesting and important feature is that these skin lesions do not disappear after death.

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## HISTORY OF RABIES IN SOUTHERN CALIFORNIA.

By STANLEY P. BLACK, M. D., and L. M. POWERS, M. D., Los Angeles.

There is no disease, perhaps, in which the public mind is so beclouded as with that of hydrophobia. The general public often denies the existence of the disease and even among the profession we have seen doctors who say they never saw a case of rabies, and who state therefore it does not exist. Rabies is a disease which affects many animals, most commonly dogs, and more rarely the human being, but Drs. Kerr and Stimson in their paper read before the American Medical Association, had collected 111 human deaths from hydrophobia in 1908. Every dog which bites an individual is not a rabid dog. It may be angry but not hydrophobic. On the other hand a large proportion of the hydrophobic dogs are unable to bite. We have the disease in the dog in two forms. First and most common the dumb variety, in which the lower jaw is paralyzed. The dog is usually quite nervous, oftentimes very affectionate, but the drop of the lower jaw is quite characteristic. In the other variety we have the furious type in which the dog will bite anything coming in his way. He rarely fights, but bites and passes on. Before the days of the modern diagnosis of hydrophobia, the large proportion of cases of rabies was diagnosed from autopsy, opening the stomach and finding it full of sticks and stones. For the past few years we have been using the microscope in the study of rabies, finding in the brain within the cells of the Hippocampus or Ammon's Horn and in other parts of the brain, the Negri bodies. These bodies as shown here under

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

the microscope are pink or red oval bodies varying in size, with small blue granules of basophilic nature, lying within the nerve cells. In California the people have been congratulating themselves that rabies did not exist in the State. We desire, therefore, to call attention to the epidemics which have occurred in the southern end of the State.

Prior to 1898 the oldest citizen in this part of the State did not remember ever having heard of rabies existing in Southern California. The first case seen and diagnosed clinically as rabies in a dog in the city of Los Angeles was reported to the health office by the owner, an English gentleman who resided near Third and Flower streets, whose dog was chained up but broke loose, seemed very nervous and uncontrollable, and fought other dogs in the neighborhood with which he had previously been on good terms, and it became necessary to shoot him. Four or five other dogs were reported to the health office in the course of a few weeks as having rabies, some with the dumb form and others with the furious form. The diagnosis of most of these cases were made by the late Dr. Withers, founder and former president of a Chicago veterinary school. In one of these cases his diagnosis was confirmed by animal experimentation made by one of us. Upon recommendation of the city Board of Health a muzzling ordinance was passed by the city council, February 23, 1898. This ordinance provided that all dogs running at large on the streets or other public places, whether licensed or not, were required to be muzzled by means of an efficient muzzle which would prevent the dogs from biting other animals or human beings. The police and the dog-catcher were empowered to enforce this ordinance. The latter official at that time was paid a stated sum for each dog caught and held or destroyed by him. This ordinance was enforced, and a few weeks afterward no rabid dogs were seen in the city. In less than three months, as there was no longer any evidence of the disease existing, upon the recommendation of the Board of Health the city council repealed it.

The source of this infection we have never been able to satisfactorily ascertain. Since then it has been reported to the health office that there were several rabid dogs just southeast of the city about the period just referred to, and the suspected source of infection to these dogs was supposed to be from some stray or abandoned dogs left on a ranch near the river, and which had been for some time prowling around and making a precarious living by preying upon the neighboring ranches, visiting the city for garbage, etc. It is possible that the dogs referred to received their infection from wild animals, and, as we are informed by the territorial authorities, the disease had existed for years among the skunks and coyotes in Arizona, there is every reason why it should spread to Southern California.

In the spring of 1899 occurred in Pasadena the following human case of hydrophobia. This report was written at the time by the attending physician, Dr. J. M. Radebaugh:

On March 10, 1899, H. M. S. was bitten on the right ala of the nose by his cocker spaniel. This dog had previously bitten the puppy of his mate, and the four-year-old son of the patient. From March 10th to April 25th Mr. S. exhibited some restlessness, and an abnormal desire for diversion. On April 25th intense migraine in the side bitten. As this subsided somewhat under treatment faucial injection of same side was noticed. Two days later, in attempting to drink water, a spasm of the arm kept the glass six inches from mouth, and spasm of throat muscles occurred. Shortly afterward was able to swallow water through a tube, and still later by taking two forced inhalations was able to swallow water, followed, however, by spasm of throat muscles. Patient highly excitable and talkative. These symptoms continued for three days; the muscular spasms gradually extended over the entire body. Profuse tenacious mucous secretion in throat causing great efforts at clearing throat. Patient had the feeling that he could not expectorate into a cloth or vessel, but must spit to a considerable distance. Opisthotnos finally developed, and death occurred April 30, 1899. An autopsy was made by one of us at the request of the family in order that, if the diagnosis was established by animal inoculation, the four-year-old son of the patient might receive the Pasteur treatment.

The brain, except for meningeal injection, showed no gross lesions. Subdural injections into two rabbits of an emulsion of the medulla of the patient were made. These rabbits died during the second week with typical symptoms of dumb rabies.

At this time no other cases of the disease were observed in or about Pasadena either by physicians or veterinarians. The health officer of the city at that time, Dr. F. F. Rowland, could find no other cases in other animals. Some two or three weeks previous to biting Mr. S., this dog had been away from home for a couple of days, and had probably at that time been infected.

From 1899 to 1906 no case was observed by either of us. In the spring of 1906 one of us was asked to go to Soldiers' Home, twelve miles southwest of Los Angeles, where the following facts were given: A pet dog of one of the officers had acted strangely, and on March 31st bit a man, five horses, several dogs and hogs. On advice of Dr. Antonio Lagorio, director of the Pasteur Institute, Chicago, the head of the dog was placed in glycerin and taken to Chicago by the patient. Dr. Lagorio found Negri bodies present, and gave the man the Pasteur treatment. Rabbits inoculated from the brain of this dog died of rabies. The dogs bitten at Soldiers' Home were immediately killed; the horses quarantined and later two of the latter developed rabies and also a large hog, which were killed.

In June, 1909, a policeman shot a collie dog at San Fernando and Ord streets, Los Angeles, near the center of the city, which he suspected of being rabid. The brain was examined in the Los Angeles laboratory with negative results. In less than a month after this three other dogs suspected of being rabid were shot by policemen within four or five

blocks of the same neighborhood. In September of the same year Mr. Petersen, of Ellendale and Twenty-third streets, in the southwestern portion of the city, reported to the health office that a valuable horse owned by him had symptoms that created suspicion in his mind; and on investigation it was found that the horse had been bitten by a strange sick dog about three weeks before. The horse showing all clinical symptoms of rabies was pronounced clinically rabid by the attending veterinarian, Dr. L. W. Young. The horse died, and its brain was secured and examined in the city laboratory, and showed Negri bodies. The next animal examined was a black water spaniel at No. 3556 Arroyo Seco avenue, in the northeastern corner of the city, in the direction of Pasadena. As examined by one of us the brain of this dog showed Negri bodies; and in the city laboratory inoculations were made of guinea pigs and rabbits which proved rabies. A muzzling ordinance was passed on September 15, 1909, but was repealed the following Tuesday in consequence of strong opposition by part of the board of health, a few dog lovers, and the humane animal officer. The disease then rapidly spread over the city, and many cases of rabid dogs were reported from various parts of the city. Up to the present time there have been reported to the health office forty-three dogs; and the brains of thirty-nine dogs and other animals have been examined at the city laboratory. Four horses and one mule to our knowledge have died of rabies. The total number of persons bitten by rabid dogs is unknown.

The city does not employ a veterinarian, and on account of public sentiment it has been with the greatest difficulty that the Health Department has received reports of cases. In fact, we do not believe there has been one case of rabies in ten reported to the office. Many dogs are killed by their owners or other persons and sent to the crematory without any diagnosis having been made by a veterinarian, or any examination of the brain.

Dr. John R. Colburn reported a case of rabies in a human being February 21, 1910, an account of which appeared in the *Southern California Practitioner* as follows:

"Patient, J. S., age 10 years, was bitten, while playing in the street, on the calf of the leg by a stray dog about December 17, 1909, and developed rabies and died February 21, 1910. February 18th the child seemed unwell and complained of intense itching, and was very restless. February 20th had passed a restless night, and was unable to swallow the castor oil given to him by his mother about 2 a. m.; pulse intermittent; no rise in temperature. February 21st, at 2 a. m., patient extremely restless, rolling in bed, jumping up, talking constantly, spitting frequently, crying out as if in pain; cold perspiration; pulse thready, about 180 per minute; had not been able to swallow any liquid for twenty-four hours.

"It became necessary to restrain the patient during attacks of extreme restlessness, which were caused by any sudden noise, draught of air, or an attempt to swallow any liquid. These attacks lasted about three minutes, and were preceded by twitchings of the muscles of the face, chest and arms with a delerious laugh. When quiet answered all questions promptly and intelligently. At 8:30 a. m. became comatose, and died at 9:45 a. m.

"One of us made an autopsy, examined the brain, and found Negri bodies."

In November, 1909, the city veterinarian of Pasadena called our attention to a dog which he considered rabid. This dog, a great pet, exhibited the typical lower jaw paralysis and marked restlessness. The diagnosis was concurred in, and the dog was killed. Microscopic examination of the brain showed typical Negri bodies. During the next six days eight rabid dogs were observed. The Board of Health requested the city council to pass an ordinance requiring the muzzling of all dogs running upon the streets. This request was denied by the council. The epidemic kept up at the rate of one to three cases a day for the next month. Then the Board of Health in a body attended the meeting of the council, and with the action and co-operation of the mayor succeeded in securing the desired ordinance. During the next six weeks about seventy rabid dogs and one rabid cat were observed by the veterinarians of Pasadena. At the end of two months no further cases were reported, and at the end of three months the ordinance was repealed at the request of the Board of Health; and since then no further cases have been reported.

During the present epidemic cases of the disease in dogs and cats have been diagnosed microscopically by one of us or by the State Hygienic Laboratory at Berkeley in the following districts around Los Angeles: Hollywood (now annexed to Los Angeles), Glendale, Long Beach, South Pasadena, Covina, Santa Ana, Redlands, Monrovia and Santa Monica.

### Discussion.

Dr. Charles Kean, State Veterinarian, Sacramento: There are so many fallacious ideas regarding the disease of rabies that it is no wonder that the laity still believes that this disease does not exist. I might add to Dr. Black's paper that the disease exists in Northern California and that in and around the city of Stockton they have had 100 cases during the past four or five months. The muzzle ordinance has been enacted. We have the two forms of rabies —the dumb type and the furious type—and this is where the trouble comes in with the layman and the professional man. The common idea with regard to rabies is that a dog should be running around biting at everything and everybody. This is the case in the furious type but not in the dumb type of the disease. Wherever we have a rabies epidemic, the prevalent type is the dumb type. Where we have one case of the furious type we have ten or twelve of the dumb type. In the dumb type, the symptoms which are most usual are the paralysis or paresis of the lower jaw and paralysis of the muscles of deglutition, constantly increasing, followed by death in from three to six days. In the furious type we also have a certain amount of paresis of the lower jar. These dogs will leave home for several days and will fight and attack other animals as well as man and foreign bodies such as sticks and stones are found on autopsy in the stomach. In connection with rabies these dogs usually show an exact opposite change of nature as soon as the disease is developed. The disease appears in dogs sooner after inoculation than in any other animals, sometimes as early as six days after inoculation. Unfortunately the first symptoms are not noticed. This disease is very often mistaken for distemper, strychnin poisoning and tetanus. The symptoms, however, give such a perfect picture that I cannot understand its not being diagnosed.

Dr. H. G. Brainerd, Los Angeles: My experience with rabies is very limited. I saw in consultation this case which Dr. Black reported and might say a few words in that connection. The boy had attended school the Friday before I was called and was noted to be nervous and complaining. There was no urticaria or itching or burning over the entire surface of the body. He slept but little but had no definite pain. His restless condition was ascribed to the fact that he had been the only child in the house to have escaped the measles. He was kept in bed the following days, and while the restlessness continued he talked perfectly rationally but had some difficulty in swallowing his food. He was constantly talking and spitting a dry and tenacious secretion in small amounts. He said he wanted a drink and for the first time I noticed the characteristic spasm preventing the swallowing. The moment the water was in his mouth there was a spasm of the pharynx which prevented his swallowing. He died about four hours after I first saw him, with heart failure, and whether that rapid heart action was due to the stimulants which he had had or to the disease, I do not know.

Dr. S. W. Langdon, Stockton: It has already been referred to in this discussion that we have had rabies in Stockton. About 100 cases have been reported. It is now the custom that when there is anything found to be the matter with the dog either the people or the police kill it. About forty cases have been actually under the observation of the veterinarian. Out of that number fully one-half had typical symptoms. In the other half the symptoms were not typical but the cases were surely rabies. The heads of several of these dogs were sent to the State University Laboratory and pronounced to be rabies. Nearly all of these dogs were affected with the dumb type of the disease. There were only four or five with the furious type, and by some good luck no one was bitten by any of these dogs. Of course, the fact that no one was bitten had quite a tendency to disprove that it was rabies. Our Supervisors were asked to appoint a veterinarian, but refused. They thought it was the object of some one to get a job, and that was the attitude with which we had to contend. If any of you get it in your community, I advise you, when you are having your ordinance drawn up, to be specific with regard to muzzles, being sure that they are sufficient. There are muzzles which allow the dogs to nip people and my idea is that they should be of wire, which is no injury to the dog.

Dr. E. Rixford, San Francisco: In the absence of Dr. Beatty of San Jose, I will mention a few details of an interesting case which he had. You may remember having heard of the case of Miss Kennedy, a school teacher, who was pounced upon by a California lion. The animal held her in his grasp with his foreclaws on her shoulders and every time she moved or screamed his claws were tightened. After the lion was shot it was found that Miss Kennedy was not seriously wounded and under Dr. Beatty's care she recovered. Some three or four weeks subsequently she developed certain nervous symptoms not easily explained and ending in death. Dr. Beatty was much of the opinion that this was a case of hydrophobia in the wild animal. It may be interesting to know that the wild animal may be infected and may be the source of infection.

Dr. L. M. Powers, Los Angeles: When we announced that we had rabies in Los Angeles as early as 1899, it was disputed by everybody. We succeeded in proving it and under the existing conditions very readily wiped it out. The muzzle ordinance eradicated the disease. No more was heard of it after that until six or seven cases were seen at the Soldiers' Home more recently. There is, however, such a feeling against believing in this disease that it is difficult to get an ordinance passed. We made our appeal time and time again and it was denied, and we patiently waited hoping that the dog would bite the right person. He bit, but it was a child and the child died. The ordinance was then passed but not sufficiently enforced to get the results we desired. In the first place, the public is not sufficiently educated on this subject. They do not understand it. If we can control the dog, we can eradicate the disease from the community. The greatest trouble we have is with the humane feeling existing among people against administering the law. They will protect the dog in spite of the child. Under the present system of enforcing the muzzling ordinance, the humane officer and the police are more or less hampered. Another thing is that the humane officer at the present time is hired by the month. It used to be that he was hired by the job and naturally took more interest in the work he did. Rabies is described by some authors in several stages, the dumb form being preceded by a rabid form. I have noticed in some dogs that while they have remained perfectly docile, they have become very rabid on examination. There was one dog which had been perfectly quiet until the night before he was shot, when he suddenly tore up a pair of shoes. When I saw him it was almost impossible for him to bite. In other dogs, we would imagine from his actions that he is choking or has a bone in his throat. One dog which I saw, while not disposed to hurt anybody, was inclined to take his forepaw every once in a while and claw his mouth three or four times and then lie down quietly again until something disturbed him. Actions of this kind have led people to undertake to remove bones, and they have been bitten by this seemingly gentle animal.

## THE DEMONSTRATION OF A DISSECTION SHOWING AN ANOMALY OF THE ARTERIES OF THE LEG, WITH AN INTERPRETATION.*

By FRANK E. BLAISDELL, M. D., San Francisco.

In the dissection the arteries of the leg all arise normally, but the anterior and posterior tibials both terminate in the lower third of the leg, by breaking up into small terminal branches, neither passing into the foot.

All the arteries to the foot are supplied by the peroneal.

The anterior branch of the peroneal passing forward between the tibia and fibula, gives off the anterior peroneal and continues onward into the dorsum of the foot as the dorsalis pedis, which is normally distributed.

The peroneal proper gives off its usual branches at the posterior and outer ankle, passing to the inner ankle, dividing there into the two plantar arteries, which are otherwise normal in their distribution in the foot.

The artery of the embryonic lower extremity is the sciatic, a direct continuation of the common iliac; it develops in the back of the limb as that develops, supplying branches to the foot; giving off a branch just below the knee (proximal part of the future anterior tibial), another just above the ankle (distal part of the anterior tibial).

Meanwhile the femoral artery has appeared as an outgrowth at the junction of the sciatic with the common iliac. The femoral extends caudad beneath the inguinal ligament and forms an anastomosis with the sciatic just above the knee, the sciatic in the leg now becomes continuous with the femoral (popliteal and peroneal); another branch

* Read before Cooper College Science Club.

arises just below the knee (proximal part of the posterior tibial).

The femoral after its anastomosis with the sciatic, gives off a branch just above the knee which extends down the inner side of the leg and into the sole of the foot; this branch is the saphenous.

The sciatic above its union with the femoral begins to retrogress and ultimately becomes the sciatic of the adult. The femoral failing to form its normal anastomosis with the sciatic will remain comparatively small and limited to the thigh, the sciatic increasing in size, takes the place of the femoral in the thigh, supplying the arteries to the leg.

The branch given off early by the sciatic just below the knee and which represents the proximal part of the anterior tibial, grows downward to form an anastomosis with a similar branch given off by the same artery just above the ankle (distal part of the anterior tibial) and which extends into the dorsum of the foot. In this manner the course of the anterior tibial is established and its continuation as the dorsalis pedis.

The posterior branch given off by the sciatic (popliteal) just below the knee grows caudad and anastomoses with the saphenous at the inner ankle, thus the posterior tibial and its continuity with the plantar arteries becomes established; the saphenous artery between this point and its origin from the femoral undergoes complete atrophy, except a small proximal portion that becomes a branch to the knee.

The popliteal and peroneal arteries of the adult are derived from that part of the embryonic sciatic that persists between the point where it was joined by the femoral above and where the branch above the ankle (distal part of the anterior tibial) gave off the anterior peroneal, the short communication between the latter and the established anterior tibial undergoes atrophy.

*Summary.* The anomalous arrangement of the crural vessels as given above, represents an earlier embryonic state, metamorphosis being incomplete, the anterior tibial failing to unite distally with the anterior branch of the embryonic sciatic given off above the ankle, and the posterior tibial failing to unite with the saphenous at ankle, the latter anastomosis being effected by the sciatic (peroneal).

## URETEROCYSTOSTOMY.*

By GEO. B. SOMERS, M. D., San Francisco.

In October, 1905, Dr. T. W. Huntington asked me to see with him a patient suffering from ureteral fistula. In consultation he outlined a plan of operation which seemed to me both eminently practicable and possessed of original features. The procedure was carried out with perfect results. Since then I have performed the same operation on three other patients, with success. These four cases seem to me worth reporting.

Ureterocystostomy is usually considered a rather formidable operation, but with the technic here given, it appears comparatively easy, and the results good. Furthermore, the procedure is an excellent illustration of the rather modern operation of boldly opening the bladder by a transperitoneal incision.

Following is a brief history of the patients operated upon:

1. Mrs. X.—a patient of Dr Huntington. She had passed through a very difficult confinement about six months previously. The labor was instrumental and prolonged. Following this there was urinary extravasation through the vagina.

An examination showed the os lacerated bilaterally, and on the left side a scar extending from the angle in the os through the cervix, there having apparently been a tear of the entire cervix, which, at the time of examination was practically healed. Urine trickled constantly from the os, proceeding evidently from the lower portion of the uterine body. Cystoscopic examination showed the bladder fairly normal. A ureteral catheter passed readily into the right ureter. The left ureteral opening was patent, but could be penetrated only for a distance of one and one-half inches. At this point there was positive obstruction.

Uretero vesical anastomosis was undertaken October 4, 1905. The recovery was excellent and the patient has enjoyed good health continuously since her operation.

2. Mrs. S., October 18, 1905. Supravaginal hysterectomy.

The operation was complicated by dense adhesions. Patient made a bad recovery, suffering much pain and having rise of temperature and a rapid pulse. A mass was discovered in the pelvis which gradually increased in size. About ten days after the operation vaginal section was performed, under the supposition that the mass was an abscess. The incision liberated a large amount of blood and water. No pus present. From this time on there was a constant discharge of urine from the vagina, and the condition was recognized as a ureteral fistula.

Ureterocystostomy was performed January 4, 1906. Recovery was somewhat interrupted by cystitis owing to rather prolonged use of a permanent catheter in the bladder but, eventually, the patient made an excellent recovery.

Discharged February 12, 1906, 39 days after the operation.

3. Mrs. D., November 5, 1908. Panhysterectomy for cancer of the uterus.

After the operation the nurse reported a great deal of watery seepage from the vagina. On examination it proved to be urine, and later a diagnosis of ureteral fistula was made. On December 3d, 28 days after the panhysterectomy, the ureter was anastomozed with the bladder. Permanent catheter left in place only 24 hours. Thereafter patient voided frequently, but the catheter was passed every two hours to make sure that the bladder was not distended. After the third day catheterizing was omitted.

Patient discharged December 28, 1908, twenty-five days after operation.

4. Mrs. M., November 25, 1908. Panhysterectomy for cancer of the uterus. Much shock followed. Large amount of blood noted on pads. The watery character of the discharge was not noted until the third day. This was later recognized as coming from a ureterovaginal fistula.

December 30, thirty-five days after the first operation, ureterocystostomy was performed. This time no permanent catheter was used, but catheterizing was performed every two hours for two days. Thereafter patient was able to empty the bladder herself.

Discharged cured January 18, 1909, nineteen days after the operation.

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.

*Diagnosis.* A word or so may be said about diagnosis of ureterovaginal fistula, for it is not uncommon to find that there is considerable doubt as to whether a fistula is ureteral or vesical. This question must be settled beyond doubt before attempting operation, also as to whether the side involved be right or left. The following simple measures carried out in all cases cited, were sufficient to establish the diagnosis.

(1) With the patient in the dorsal position, the bladder was filled with a solution of methylene blue. With a speculum in the vagina, the urine from the leak was swabbed away with gauze sponges. If no color appeared after a short period the fistula was presumed to be ureteral.

(2) Starting with an empty bladder the urine from the fistula was collected over a given period. This amount was measured and compared with the catheterized specimen drawn from the bladder at the end of the same period. The amounts should be about equal if the leak is ureteral.

(3) The vaginal opening of the fistula was watched through a speculum. The urine was seen to be discharged in jets at regular intervals, corresponding to the peristaltic action of the ureter.

(4) The side involved was in all cases easily located by probing the fistulous opening, and noting the direction of its course.

*Technic.* The operation performed on the above patients, was practically the same in each case. The successive steps are as follows:

(1) To assist in finding the injured ureter during the laparotomy, a catheter may previously be passed into the vaginal opening and left in place.

(2) It is a good plan to leave a rubber catheter in the bladder, so as to keep it empty during the operation.

(3) With a liberal median incision, the pelvic cavity is thoroughly exposed. In looking for the ureter, it is well to remember that it is closely attached to the peritoneum. When this is dissected up, the ureter is lifted with it, and will usually be found on the under surface of the peritoneum, rather than buried in connective tissue beneath.

(4) The ureter is liberated down to a point as near as possible to the base of the bladder. It is there cut off, leaving a free length of about one and one-half inches.

(5) The bladder is now opened by a median longitudinal incision, about two inches in length. This gives free access to the whole of the interior, with plenty of working space.

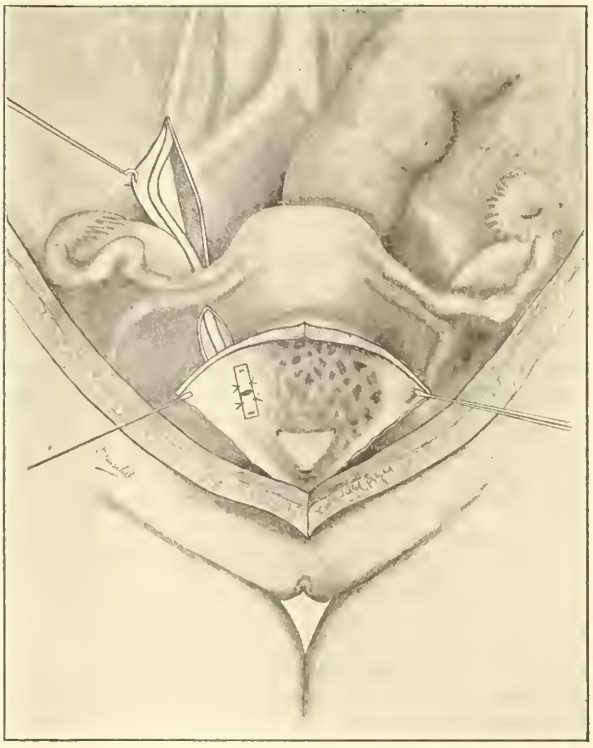
(6) A point is selected on the surface of the bladder, which the free end of the ureter will easily reach. If there be any difficulty in making the ureter reach the bladder, the latter may be dissected away from the pubes sufficiently to allow approximation.

(7) The bladder is punctured at the selected point, and the ureter drawn through. Where the broad ligament is present, the puncture is made to pass through this structure at a convenient point.

(8) The end of the ureter is split, so as to make an upper and a lower flap, each about one centimeter in length.

(9) The mucosa of the bladder where these flaps are to be united, is slightly denuded, and then each flap is sewed to the bladder wall by fine chromicized catgut.

(10) The operation is completed by closing the bladder and covering the remainder of the uterer as completely as possible with peritoneum.



Ureter anastomosed with the bladder through a working incision.

(11) In the after treatment the bladder is kept empty by catheterizing every two or three hours, for several days. A permanent catheter should not be used, as it is almost sure to produce cystitis.

*Remarks.*

The chief feature of this operation is the deliberate opening of the bladder, for the purpose of affording working space in carrying out the anastomosis. I have looked over the literature of the subject, but do not find any account of just this procedure.

All the operations that I have been able to find, have been done, either through the vagina or through an accidental opening in the bladder or where a laparotomy has been performed by simply puncturing the bladder, without making a separate working incision.

In general the transperitoneal opening of the bladder, for any purpose has, up to the last few years, been looked upon as an operation of great gravity.

In 1908, Charles H. Mayo reported five cases of tumors removed by this route. Since then much interest has been taken in transperitoneal surgery of the bladder, and a number of men have reported successful operations for various conditions, but I

believe that Dr. Huntington's ureterocystostomy done through a transperitoneal working incision in the bladder, is the first of the kind to be described.

Hitherto when the bladder was invaded, preference has been almost universally given to opening through the prevesical space. In the light of recent experience, this attitude appears fallacious. I believe that opening up the prevesical cellular tissue is much more dangerous than opening the peritoneal sac. It is much easier to prevent infection of the peritoneum than to protect a large bleeding surface covered only with cellular tissue.

The method of treating the end of the ureter by flap splitting was suggested by Dudley. The idea is to prevent contraction and stenosis. Several instances have been reported where the free end of the ureter transplanted into the bladder, has so contracted as to produce hydroureter and hydronephrosis.

Dudley's operation was carried out through a vaginal opening. He says plainly on page 621 of his latest textbook, "To open the abdomen, sever the ureter and insert it into the bladder wall is an operation of great difficulty and danger, and sometimes is only of transient value."

This statement of Dudley seems to voice the opinion of most of the textbook authorities. But in spite of this, my study of the technic as here given and my experience with the above four cases, leads me to an opposite conclusion. I believe that ureterocystostomy done through a transperitoneal working incision of the bladder, is the safest and best method yet devised for the cure of a uretero vaginal fistula.

### Discussion.

Dr. T. W. Huntington, San Francisco: I wish to congratulate Dr. Somers upon the successful work he has done along this line. My attention was first called to the transperitoneal method of ureteral implantation by Dudley, who reported a case in the Annals of Surgery in 1904. My impression from reading the article was that this operation was done exactly in the same manner as my own case, but Dr. Somers called my attention to the fact that in this respect I was in error, although the general technic was that of Dudley. Dr. Somers has clearly demonstrated the safety and efficiency of the transperitoneal method effected by the means of a working opening in the fundus of the bladder. We are under obligations to Dr. Somers for having followed his cases and demonstrated, after many months, the fact that the ureteral opening in the bladder does not contract in this method as in some others.

Dr. G. B. Somers, San Francisco: I have nothing in particular to add. What I was most strongly impressed with, in studying up this operation, was the fact that I could get no satisfactory description of routine or generally approved methods of anastomosis of the ureters with the bladder. The majority of the authorities seemed to fear opening up the bladder to get working space. The point which Dr. Rigdon made about easy access to the base of the bladder without opening the peritoneum I have discussed in my paper. I feel that this method is more dangerous than the procedure outlined. Our experience with laparotomies shows that we are able to protect the peritoneum very easily. If we open the cellular spaces beneath the peritoneum we cannot be so sure of protecting the parts either from infection or hemorrhage. In other words, the risk of infection and hemorrhage is greater in the subperitoneal tissue than it is in the peritoneal sac.

## SCIENTIFIC REVIEW

## A REVIEW OF SOME POINTS IN CEREBRAL PHYSIOLOGY WITH REFERENCE TO THEIR APPLICATION TO SURGERY OF THE BRAIN.

By SOL HYMAN, M. D., San Francisco.

The rigid cranium containing the brain is closely lined by the dura mater. The nervous organ, with its pia, is separated from the dura mater by the arachnoid membrane. The subarachnoid space (between arachnoid and pia) normally contains a greater or less amount of cerebrospinal fluid. This fluid is probably secreted by the ependymal covering of the choroid plexus in the ventricles of the brain; and passes through the aqueduct of Sylvius, through the foramina of Magendie, and Key and Retzius into the subarachnoid space. A minimal amount of fluid normally exists between arachnoid and dura. (How?) The cerebral subarachnoid space is in direct continuity with the corresponding space in the spinal canal.

In order to determine whether the cerebrospinal fluid has special channels out of the cranial cavity numerous experiments have been performed, from which the following facts have been established. If fluids whose identity can be recognized (such as milk, methylen blue) be injected into the subarachnoid space, they can, in a very short time, be recovered from the jugular vein. In ten or twenty minutes the coloring matter is found to be secreted into the stomach and bladder, while the lymphatics of the neck are not even colored. "After an hour's steady injection, the deep cervical lymphatics are seen to be only partially tinged with blue color." Serum passes into the veins with as much ease as saline. Within limits, the higher the pressure, the more rapid the absorption. By the method of colored fluids it is seen that the portals through which the fluid from the subarachnoid space enters the venous channels, are the Pacchionian granulations into the longitudinal and transverse sinuses. This is the important normal route for the absorption of large amounts of cerebrospinal fluid. Besides this venous route a certain amount of cerebrospinal fluid passes out of the craniospinal cavity along the sheaths of the cranial nerves (optic, olfactory, etc.) and also along the sheaths of the spinal nerves. It is to be remarked that certain English observers consider the last-mentioned route as the most important. I do not know just what is their evidence for sustaining this view.

The blood supply of the brain does not need detailing. It is hoped that it will suffice to mention that, after traversing the capillary areas, it gains the venous sinuses to leave the skull principally by means of the internal jugular veins. There are, however, certain collateral exits, viz.: the emissary veins, the diploic veins, the ophthalmic vein, the posterior condyloid veins into the deep cervical veins, and the connections with the great venous plexuses in the epidural space of the spinal canal. The cerebral veins contain no valves.

The mechanism of the control of the blood-flow to the brain, because it is not fully understood, is one of the most important physiological and clinical

problems with which we are brought in contact. Our knowledge of this phase of our subject may be briefly summed up as follows: Although anatomical studies have revealed the presence of a rich network of nonmedullated nerve fibers in the walls of the cerebral blood vessels, it has never been demonstrated experimentally that these vessels can be contracted or dilated by stimulation of the sympathetic, vagus or sensory nerves. In other words, they are not subject to the vasomotor fluctuations as are the vessels of other organs of the body. Just what is the function of these nerves running in the walls of the vessels we do not know. It has been suggested that they control the local fluctuations in blood flow in the various portions of the brain. This remarable organ must, because of the variety of functions it is called upon to perform, require more blood now in that part governing motor activity, now in that part where the intellectual functions are brought into play. How such a multiplicity of functions is possible without certain rises and falls in local blood-flow, is hard to understand. This is, however, speculation, and has no place in our present discussion.

As with the local variations in blood-flow, so with the general cerebral blood-supply. It has never been demonstrated experimentally that there can be produced an increase or decrease in the blood supply of the brain as a whole by direct stimulation of the nerves which one would suppose, a priori, might give such a result, viz.: the cervical, sympathetic, the vagus; or by reflex action due to the stimulation of a sensory nerve. The importance of the existence or the non-existence of the immediate production of a cerebral anemia or hyperacmia is too evident to necessitate further discussion.

An indirect control of the blood flow to the entire brain has been experimentally shown; and it is suggested by Roy and Sherrington that this is the normal method.

In the absence of vasomotor mechanism, the arterioles of the brain cannot actively contract or dilate. They may simply be more or less full. But we know that there are variations in the cerebral blood-supply. These variations are brought about indirectly through the action of the great splanchnic vasomotor area. If the splanchnic vaso-constrictors be in action, the general blood pressure is raised, and so more blood flows through the cerebral vessels in a given unit of time. If now the vessels of the great splanchnic area dilate, the general blood pressure falls, and less blood is forced through the cerebral vessels. By this splanchnic dilatation one may have induced so severe a cerebral anemia as to give the clinical picture we term shock (Crile). Expressed otherwise, it is not the size of the lumen of the cerebral vessels which varies, but the amount of blood flowing through them in a given interval of time, this amount being determined by the action of the general vasomotors, whose so-called center lies within the brain itself—in the medulla. Should the great splanchnic area dilate, causing a cerebral anemia, this very anemia acting as a stimulus to the medullary vasco-constrictor area, will cause the splanchnic vascular area to contract and so raise the general blood pressure, force more blood into the cerebral vessels, and restore the normal balance. It needs no further demonstration to convince one that the cerebral blood pressure is likewise dependent on the general blood pressure and that it is unable to undergo any local variations because of the absence of vasomotor nerves in the cerebral vessels. The point of highest intracranial blood pressure is, for obvious hydrodynamic reasons, in the arteries where they enter the skull; and the point of lowest intracranial blood pressure is in the veins as they leave the skull. This is important to remember in the consideration of the early effects of intracranial tension.

In brief, we have the blood carried to the brain by a series of elastic tubes, the arteries; and after it traverses the capillaries it is carried away by a series of slightly distensible but easily collapsible tubes, the veins.

One point further must be mentioned with respect to the cerebral vessels. Contrary to the common teaching the lumen of the longitudinal sinus may be completely obliterated by external pressure. This has been proved by direct observation through a glass window introduced into a trephine hole in the skull, while fluid was injected under pressure into the subarachnoid space. The lateral sinuses may, perhaps, not be so completely obliterated. The smaller veins leading from the cortex to the sinuses are easily compressible.

The cerebrospinal fluid is, of course, under a certain tension and exerts a certain pressure. For our purposes it is of interest to consider briefly the normal relation of the pressure of the cerebrospinal fluid to the intracranial blood pressure—more specifically to the venous pressure.

In the normal, erect position, the cerebrospinal fluid exerts no positive pressure on the brain, as is evidenced by the fact that, in the infant, the fontanelle is represented by a depression. In the adult, in the absence of increased intracranial tension, the removal of a portion of the skull leaves a depression rather than a bulging of the cranial contents into the trephine opening. Furthermore, the pressure of the cerebrospinal fluid cannot, under normal circumstances, exceed the pressure of the blood in the veins at their exit from the skull, for, if it should do so, the veins would be compressed and there would result a venous stasis peripheral to the point of constriction, which is a pathological condition, as we shall see later.

Measurements of the pressure of the cerebrospinal fluid, and of the blood in the veins and sinuses, made by Leonard Hill, are the basis of the above statements.

If, for any reason, the blood vessels of the great splanchnic area contract, the result is, as we have shown, an increase in the amount of blood which flows to the brain. This means that there is an increase in the volume of the intracranial contents. As the cranium is a rigid cavity, in which there is no "dead space," room must be made for this extra influx of blood. This is accomplished in one of two ways: either the cerebrospinal fluid is forced from the cranium into the spinal canal, or it is excreted more rapidly through the Pacchionian granulations into the blood stream. With certain tumors of the brain, however, as the space within the cranium is encroached upon by the neoplasm, one finds that, in order to make room for this increase in the contents of the cranium, the cerebellum and medulla are forced into the foramen magnum, blocking the exit of cerebrospinal fluid from the cranial into the spinal subarachnoid space. Under such circumstances there must take place an increased excretion of cerebrospinal fluid into the blood stream and along the nerve sheaths, or there will arise a stasis of the liquor cranii.

Leonard Hill found that when a large amount of saline solution was injected under pressure into the

subarachnoid space, it was very rapidly excreted into the blood stream, as determined by measuring the outflows from the skull through the jugular vein.

### Pathological Physiology.

In the light of the above sketch of the normal conditions within the cranium, we are, in a measure, able to understand what happens when the intracranial tension is, for any reason, increased. We shall attempt, now, to show what are the variations in these conditions when the intracranial space is encroached upon by a tumor, and, so far as they are understood, give the reasons for the symptoms produced by such encroachment.

Of course, each tumor causes its own train of local symptoms. These do not concern us at present for we are considering only the general effects of an increase in intracranial tension, whatever be the location of the tumor within the cranium.

Let us consider a tumor starting from a minute focus, and gradually becoming larger, encroaching more and more upon the limited intracranial space; and trace its effect through its various stages of development, until it causes the death of its host.

So long as our tumor is sufficiently small that the cerebrospinal fluid can be excreted freely through the normal channels, and the pressure exerted on the veins through the cerebrospinal fluid does not compress them sufficiently to interfere with the normal outflow of blood, a pathological condition of the intracranial contents has not arisen, and there are no symptoms. This is called by Kocher the compensatory stage of intracranial pressure. Even in this stage, there is, however, one definite and important sign of increased intracranial tension, the choked disc, or papilledema, or, as it is called by some, leading to an endless confusion which has cost many lives, optic neuritis. We know definitely, thanks to the experiments of Bordley and Cushing, that choked disc can be caused by an increase in the intracranial pressure alone. Our small tumor may have gained room for its growth by forcing a portion of the cerebellum and medulla into the foramen magnum. The compression of the medulla in the foramen causes the irritation of the medullary nuclei (particularly the vagus), and we have the appearance of the well-known, slow, high-tension, regular pulse—the vagus pulse. This form of pulse is purely an irritation-effect, and is the result of the so-called inhibitory action of the vagus, and may be produced by simple faradic stimulation of the vagus nerve in its course, or in the floor of the fourth ventricle.

Suppose, now, that our tumor continues to increase in size, and to encroach further upon the intracranial space. The intracranial pressure is slowly but surely increased until it reaches the point where it exceeds the blood pressure in the great veins and sinuses. These vessels are compressed and we have a venous congestion of the brain of greater or less degree—a condition of perverted nutrition evidenced by perverted function. The symptoms and signs of this stage of venous congestion are probably headache, giddiness, unrest, noises in the ears, excitement, delirium, jactitation and dreams, and an increase of the reflexes, superimposed upon the choked disc and vagus pulse (if such be present) of the previous stage. This is Kocher's early stage of manifest intracranial pressure. We have said these are the probable symptoms advisedly, because from their nature their existence cannot be confirmed experimentally, but they usually occur before those about to be described as belonging to the next stage appear, and these latter can be experimentally produced.

With the increase in tension, as the tumor grows larger, we have not only the veins and sinuses compressed, but also the capillaries and arterioles—an anemia of the brain. This is not a local anemia due to the direct pressure of the tumor, but a general anemia due to the increase in intracranial pressure. This pressure is transmitted to all parts of the cranial cavity through the cerebrospinal fluid and through the fluid brain. Such a general anemia of the brain will, if uncompensated, cause death in a few minutes. But it may be compensated, and for a long time, in the following manner:

Anemia of the vasomotor area in the medulla, stimulates it. It becomes active and the general blood pressure is raised until it is higher than the intracranial pressure. The anemia is thus overcome, and life continues. With the disappearance of the anemia the stimulus to the vasomotor centers is withdrawn, the general blood pressure falls. The veins, capillaries and arterioles are again squeezed empty of their contents by the high intracranial pressure, and the anemia recurs. Thus does this cycle continue to repeat itself. These periodic rises and falls in the general blood pressure are the so-called Traube-Hering waves. Somewhat similarly is produced Cheyne-Stokes respiration.

With the cerebral anemia we have a lowering of all brain functions: depression of consciousness, torpor, lowered response to external stimuli, and weakness of muscular innervation. This is Kocher's **Hohesstadium** or Advanced Grade of intracranial pressure. These have all been produced experimentally.

As our tumor reaches a greater size, the moment occurs when the anemia of the brain is very imperfectly overcome. Life may continue, but many vital portions of the brain have become paralyzed. The torpor becomes coma, there is no longer a reaction to stimuli. The limbs are flaccid. The respiration becomes more and more typically Cheyne-Stokes. The slow, high tension, regular, vagus pulse, due to stimulation of the vagus centers in the medulla, becomes, owing to the paralysis of these nuclei due to anemia, the small, running, irregular pulse which the Germans have aptly termed the Väguslähmvagpuls. This is the paralytic stage of intracranial tension.

The next stage is death.

### Therapy.

#### I. New Growths.

The classical syndrome by which we are wont to recognize the presence of a brain tumor is the triad, headache, vomiting and choked disc. From the aforegoing discussion it is clear that these signs are those of increase in the intracranial pressure whatsoever may be its cause. They are no more the signs of tumor, in its limited sense, than those of blood-clot or abscess or hydrocephalus. This triad, with or without the other signs and symptoms we have enumerated above, means encroachment upon the limited intracranial space. We may dare to go even further and state that it is not necessary to have the complete triad in order to recognize that there is abnormal pressure within the cranium. The choked disc alone, especially if it be coupled with localizing signs, such as paralysis, sensory or motor, spasms or convulsions, dizziness, etc., is sufficient indication of the condition with which we are dealing. Choked disc, even in the absence of all other signs or symptoms, if it cannot be explained by other causes, must for the sake of our patients, be attributed to increase in pressure in the cranial cavity. It may be, and often is, the earliest sign. If not checked the choked disc can very rapidly, at times in a few weeks, proceed to atrophy of the optic nerve, and as this atrophy may be difficult to discern by means of the opthalmoscope while the nerve head is still much swollen, our intervention may be postponed so long that but little of the normal vision can be saved.

In the light of the principles we have enunciated, the therapeutic problem is simple. Speaking broadly, when a tumor which is encroaching upon the intracranial space can be removed with safety, such a procedure is the logical one. Under these circumstances, the cause of the pressure gone, there can be no continuance of the symptoms. The bones of the cranial walls may be left in the normal state. This is accomplished, in practice, by the employment of the osteoplastic flap.

If, however, the mass at fault cannot be correctly localized, or if it be, for any reason, inoperable, we must resort to the palliative procedure of decompression, that is, the enlargement of the cranial cavity, in order to make room for its increased contents, by the removal of a portion of its bony walls, and a similar portion of the very slightly distensible dura mater. The soft parts of the scalp are then sutured into their normal positions. The rigid tentorium cerebelli, through the opening in which passes the brain stem, divides the cranium into two cavities, the supratentorial and the infratentorial regions. If there be sufficient evidence to tell us whether the offending tumor is supra- or infratentorial, our decompressive opening should be made to correspond. For supra-tentorial tumors, the site of election is the right frontal region; whereas for infratentorial masses we choose the occipital region. In the absence of any localizing signs we may be compelled to try the one, and, in the event of failure, resort to the other.

Where the encroachment of the tumor is extradural, as in the case of blood-clot due to a ruptured middle meningeal artery, it is obviously unnecessary to open the dura mater.

Particularly are our ophthalmologists charged with responsibility. Every swollen nerve-head, unless the cause be absolutely clear, is an unequivocal sign for a careful neurological examination. By the same token, our internists must realize that every intractable headache, and every unexplained case of nausea or vomiting, whether persistent or not, is a call for an ophthalmological and neurological expert.

### II. Hydrocephalus.

Hydrocephalus, as the name indicates, is water (the cerebrospinal fluid) retained within the head. Although, in its common form, the signs are those of increase of the intracranial pressure, coupled with the signs of achronically damaged brain, we have chosen to consider the subject under a special heading because it has, in a sense, a mechanics peculiar to itself.

The production of hydrocephalus is, in the congenital as well as in the acquired form, possible in two distinct manners: the cerebrospinal fluid may be prevented from passing out of the ventricles through the foramina of Magendie and Key and Retzius into the subarachnoid space; or, if this channel be open and free, the passage of the fluid into the sinuses may be obstructed. In the former instance a lumbar puncture will give what is called a dry tap, in the latter the fluid will flow through the spinal needle under pressure. Of the causes of congenital hydrocephalus we know absolutely nothing. The acquired form may be caused by tumors in the posterior cranial fossa (cerebellum, pons, cerebellopontine angle) occluding the aqueduct of Sylvius or fourth ventricle by direct pressure; or by a tumor in any region from indirect pressure. It will be recalled that, in discussing the effects of increased intracranial pressure due to a mass displacing the brain, that it is not uncommon for the cerebellum and medulla to be dislocated into the foramen magnum. This same crowding of the parts into the foramen may so constrict the natural channels of outflow from the ventricles as to cause very considerable hydrocephalus. This mode of production of the lesion is so common that, in the consideration of such localizing signs as paralyses, epilepsies, and psychical disturbances, we are careful, in each case, to place due emphasis on the fact that any or all of them may be due to an existent hydrocephalus. Were this more often done there is no doubt there would be fewer tumors falsely localized upon the basis of the often misleading "cranial nerve symptoms."

Meningitis, of course, may be responsible for the blocking of the foramina of Magendie, and Key and Retzius, or by preventing the outflow of the fluid into the sinuses.

**Therapeutic Problem.**—The conditions to be fulfilled are simple and straightforward. In the one case we have, as the desideratum, the establishment of a permanent channel through which cerebrospinal fluid may flow from the cerebral ventricles into the subarachnoid space, or some other absorbing space. Ingenious methods have been devised to accomplish this end, but all of them which have been subjected to a rigid test have been discarded as failures.

Repeated puncture has yielded unsatisfactory results, and is attended with a mortality of almost 50%, according to some statistics. The method of forming a channel along some strands of horsehair, after the manner of a seton, connecting the ventricles with the outer world, has been discarded for obvious reasons. Tubes of rubber, silver, copper and gold have been inserted, connecting the ventricles with the subaponeurotic layers of the scalp. The tubes have not remained patent and the results are poor. Recently Anton has suggested the establishment of a connection between the ventricles and the subarachnoid space by making a large opening into the corpus callosum. Von Bramman, who performed the operations for Anton, claims a low mortality and good results. We must await confirmation of his claims. Those cases of hydrocephalus where the natural channels are blocked because of their direct involvement by a tumor are, as a rule, incurable, because the tumors which frequently cause this obstruction (those of the anterior cerebellum and pons) are inoperable. These, also, are the cases in which decompression is apt to yield very poor results, because, although a portion of the skull and dura may be removed, we still have the distension of the brain by the contained fluid. It should not be inferred, however, that we must not give the patient this chance for his life and eyesight; because it may be that after the pressure has been removed there is sufficient of a chink still left for the passage of the fluid.

The removal of a tumor, or decompression in the case of a tumor producing hydrocephalus by indirect pressure causing dislocation of the cerebellum and medulla into foramen magnum (called by the Germans Fernwirkung) yields brilliant results.

The therapy of that class of cases where the fluid cannot escape from the subarachnoid space, has been attempted by various methods. Incision through the occipito-atlantal ligament, tubes connecting the space with the subaponeurotic lymphatic, etc., have all been equally unsatisfactory. Cushing has connected the spinal subarachnoid space with the retroperitoneal tissues by means of a silver tube inserted through a trephine opening in the body of a lumbar vertebra. The tubes have remained patent, but Cushing told me that more than half (?) of his patients have died sooner or later from intestinal obstruction (intussusception).

A few cases of meningitis hydrocephalus have been operated upon, an opening being made in the roof of the fourth ventricle, with fairly good results.

That is, in brief, the status of our knowledge of the treatment of hydrocephalus. Those cases due to tumor are frequently helped by operations, and here and there one of the other forms of the disease is cured.

The conditions for alleviating this condition are simple, their fulfillment a hope of the future.

### III. Epilepsy.

It is not our intention to enter into a discussion upon the broad subject of idiopathic epilepsy; but rather to state briefly what we actually know of the pathological physiology of epilepsy in general, how it can be treated surgically, and the outlook after such treatment.

An epileptic fit is the result of an abnormal "discharge" of the cerebral cortex. This was proved by the classical experiments of Magnan, who induced epileptic seizures by the injection of small amounts

of oil of absinthe into the jugular vein in animals. After fifteen or twenty seconds, the seizure begins with a twitching about the mouth on one side of the face. The entire face, the shoulder, the upper limb, etc., becomes involved in rapid succession until we have the climax reached in a general convulsion lasting for the good portion of a minute. With intervals of rest, these convulsions repeat until the effect of the drug passes off, or until death ensues. He found further, that if any portion of the "motor" cortex were excised either after or before the fit had begun, the portion of the body governed by that cortex did not participate in the convulsions; that if the cortex governing a part of the body were excised while the part was involved in the convulsive movements, it immediately came to rest; and that if the entire cortex of one hemisphere were ablated, the fit did not spread to the half of the body governed by that hemisphere. These experiments prove that the epileptic fit has its inception in the cortex, spreads in the cortex and does not involve the subcortical structures. The same facts are true of an epileptic seizure induced by faradic stimulation of the cortex of the cerebrum.

That portion on the cortex from which an epileptic seizure may begin is said to be, for the time being, epilepsogenic. For instance, weak electrical stimulations of a given point on the cortex of frontal lobe of the brain of a monkey will, for a certain time, elicit no motor response whatsoever. If, however, these stimulations be frequently repeated, with a short interval between them, the animal will suddenly respond with an epileptic seizure. This is a clear example of the development of an epilepsogenic focus on the cerebral cortex, and indeed in one of the so called silent areas. It is an explanation of why a lesion may exist for a considerable length of time and at a remote period from the time of its production, the patient suddenly begins to have epileptic attacks. It requires a certain indefinite time for the epilepsogenity to develop. Furthermore, when one focus on the cortex of our animal has become epilepsogenic, say to electrical stimulation, the same current applied elsewhere will not, now, evoke a fit. If, however, the fits be often induced by the stimulation of our now epilepsogenic focus, this epilepsogenic quality, the capability of initiating a fit, spreads to the surrounding cortex and may, eventually, involve a great portion of the total cortical surface so that a focus from which a fit was not previously elicitable by the given stimulus now responds to that stimulus with an epileptic seizure. Likewise, the cortex which was previously non-epilepsogenic, may become what, for our purposes, we may term as "spontaneously" epilepsogenic, that is it may generate epileptic fits from no apparent stimulus.

A convulsive seizure, starting with twitchings in a given portion of the body, let us say the hand, progresses to the other parts in a regular, definite order, dependent upon the arrangement of the representation of these parts on the cortex. A fit beginning in the hand will progress up the arm and down the leg. Consciousness is usually lost with or after involvement of the face. It was the remarkable series of clinical observations, taken together with post-mortem findings, made by Hughlings Jackson, which gave to us our conception of this "march of the spasm" as he called it—or Jacksonian epilepsy. I may here insert parenthetically that the Jacksonian spasm may and often does begin with a sensory symptom, the entire fit may be sensory; and, contrary to the usual teaching, whether the patient loses consciousness or not, is of no importance in determining whether we are dealing with Jacksonian or genuine epilepsy. Loss of consciousness is determined solely by involvement or non-involvement of certain portions of the cortex. It usually occurs, if at all, late in the attack.

Epileptic fits frequently, after involvement of the greater part of, or the whole of one side of the body, cross over to the other, the convulsion becoming general. How the stimulus is conducted to the opposite side I do not know.

The aura, or premonitory symptom, has been found to be in those cases studied where there has been a definite lesion of the cortex, due to the fact that the area of the cortex in which the attack is initiated is in the region where the sensation of the aura is represented. If there be, for example, a depression of the skull over the occipital region, we may have a fit, the first sign of which is a flash of light, figures dancing, or loss of vision. Similarly in the aura of smell, taste and hearing, the respective portions of the cortex where these sensations are represented, are involved. The question of the seat in the cortex of the common sensations, touch, pressure, temperature and pain is still the subject of heated discussion among physiologists and neurologists. When the attack is due to a lesion of the frontal lobe the initial symptoms may be either loss of consciousness or quasi-purposive movements.

The question we must now consider is, Under what conditions does the cerebral cortex in man become epilepsogenic? Hughlings Jackson noted that cerebral lesions may be, in general, divided into two great groups, destructive and the irritative lesions. Destructive lesions produce paralyses while the irritative lesions cause spasms. We have seen that, experimentally, repeated stimulation of a given portion of the cortex, without a proper period of rest, causes the irritated cortex to become epilepsogenic. It might be added here that a sufficiently strong stimulus will cause the fits to appear at once. The facts collected in the laboratory can be, as confirmed by years of clinical study, transferred to apply in the case of man. A spicule of bone from a fracture, a tumor, a blood-clot, a bullet, a scar, a granuloma, arteriosclerosis, may, by its constant stimulation, so excite the neighboring cortex as to render it epilepsogenic, the site of inception of an epileptic fit. Whether these fits begin early or late depends, as we may assume from the laboratory results, upon the strength of the stimulus and the constancy of the stimulation.

With respect to the surgical treatment of a case of epilepsy there are two distinct conditions which must be fulfilled: the removal of the irritating focus, and the removal of the epilepsogenic cortex. The former is often done without due regard having been paid to the latter.

Simple as it may seem, withdrawal of the stimulus, i. e., excision of the irritative focus, may present difficulties from the curative standpoint. Raising of a depressed fracture, or the removal of a tumor or scar of the dura mater, fulfills our conditions ideally, provided the cortex beyond that irritated by the depressed bone has not become epilepsogenic; but the excision of a tumor or of a cortical scar, while insuring a probable cure, gives no guarantee that the scar resulting from our operative interference will not evoke fits on its own account.

When the irritative focus has been allowed to remain a sufficiently long time to provoke a more or less wide area of the cortex to take on epilepsogenic character, then will operative removal of the focus offer little hope indeed. If our patient has epileptic attacks beginning constantly with the same symptom and progressing in a constant order from part to part, we may assume, and it is only an assumption, that there is present a localized epilepsogenic focus. But if he comes to us with a history of having had attacks which for many months always began with, let us say, twitching of the right index finger, then involved the hand, forearm, arm, shoulder, trunk, thigh and leg, etc., in regular order, but recently his attacks have begun sometimes with a sensation of coldness in the thigh, we may be sure that a wide area of cortex has become epilepsogenic, and surgical interference will probably be futile.

On the other hand, our knowledge of definite results is not on a sufficiently firm basis to postulate

any hard and fast laws. The surgical treatment of epilepsy by excision of the involved cortex is still in its infancy. We can only urge upon the physician to submit his cases to this treatment, if at all, early, and before his patient is a subject of the epileptic habit.

There are cases on record in which there has been a focal epilepsy or localized spasms, in which the cortex governing the part has been excised, no demonstrable lesion found, and perfect cure from the fits or spasms has resulted.

## BOOK REVIEWS

**The Prevention of Sexual Diseases.** By Victor G. Vecki, M. D. Introduction by William J. Robertson, M. D. The Critic and Guide Company, New York.

The menace of the increasing spread of veneral diseases to the welfare of the community has in recent years been the subject of considerable attention. All who have made a study of the sociological aspects of the question agree that existing conditions demand radical measures with a view to immediate amelioration if not eradication of this appalling social evil. Since the appearance of syphilis in Europe more than five centuries ago, various measures have been tried for its limitation. The prostitute has been burned, and her profession has been officially recognized and officially regulated; the religionist, the moralist and the medical man have made excursions to this rough country where Nature has been challenged, but still remains unchanged. The result in all instances has been the same—failure. Seeking a solution to this intricate problem in measures which attacked only the more or less obvious manifestations of the evil, ethical reformers have from the first been doomed to disappointment and failure. It is evident as Duclaux says that a fight against veneral diseases will only be possible when we can arrive at the point of view that the sufferers are not guilty, but unfortunate. Obviously, then, the first vital step in an effective campaign clearly lies in the direction of education not only in matters of sexual diseases, but of the biological significance of the sexual instinct, and the physiology of sex itself.

It is with such a broad and keen realization of the practical side of the problem that the writer presents his book on a subject the discussion of which has often been a venturesome undertaking. To boldly and frankly present the facts has been the object of the author, and it must be admitted that he has done so clearly and in good perspective. He thoroughly agrees with most Continental writers that for the present at least it is impossible to eradicate the institution of prostitution, and that it would be well to continue as in Europe official supervision, notwithstanding its failure in remedying the evil which has continued to thrive unabated. The government's duty toward the prevention of venereal diseases is also well presented, and the physician's duty in the practical solution of the problem is very properly accentuated. Taken as a whole, the author has given us a very readable and intelligent résumé of one of the most urgent social problems confronting society to day. We commend the work to the physician and layman as a first step in education regarding the subject.

**Edema.** By Martin H. Fischer. John Wiley & Sons, New York and London. 1910.

"A Study of the Physiology and the Pathology of water absorption by the living organism." In this volume Dr. Martin H. Fischer elaborates the theory of the nature of edema that he has long advocated, and which ought to be better known among the rank and file of the medical profession than is at present the case. If his deductions are finally verified they will have clinical and therapeutical bearings of the utmost practical importance. Never has a colossal superstructure been based on a simpler statement of facts. A piece of gelatin placed in water swells up to a certain point and stops. If acid is added to the water it swells very much more, if the acid is removed it shrinks. These properties have long been known, and are the basis of certain technical procedures, such as the Bromoïl process in photography. It remained for Dr. Fischer to see that in this property of a colloid to absorb water unequally, according to the chemical contents of the latter, lays the probable explanation of the physical mechanism of growth and secretion, and incidentally of the pathological state of edema.

To briefly summarize the thesis set forth in the book it is shown that the living body consists chiefly of water and colloids. That these colloids have definite and individually different saturation points for pure water. That these saturation points are enormously extended by the addition of acid to the water, varying with the acid used. That these water swollen colloids release the absorbed water when perfused with certain salts (commonly present in the body), that the force of the attraction of a colloid for water and consequent increase in its mass is capable of producing powerful mechanical effects—all these points are amply verified by numerous experiments. Thence is deduced the argument that the living body may be regarded as a mass of mixed colloids associated with water, according to their natural affinity for water, modified by the presence of acids and neutral salts. Where the acids prevail water absorption is in excess, where salts dominate water is released. We thus have a physical mechanism for the movement of the water through the organism that is independent of the organs of circulation. Water moves to areas of acid production, and from areas of salt (various salts) concentration. The vascular apparatus may facilitate but is not the cause of such movements or conditions. The blood consists of water saturated colloid. Furthermore, the mechanical force set free in such movements greatly exceeds that exerted by the mechanism of the heart. For example, the colloids in an ox-eye will swell in acidulated water and easily rupture the strong sclerotic coat. This is a force far greater than any the contracting heart can exert. Again as each cell contains more than one colloid, and the distribution varies with organs and tissues, even between cell and cell, according to age and activity, so we have with each variation a cause for movements of water and constantly changing stresses and adjustments. Lastly, as every movement of water involves a transference of its dissolved matter so we have in such movements (determined by colloidal attractions or repulsions) a satisfactory explanation of the mechanism of secretion and excretion. It is obvious that we have in this conception the wide and sufficing simplicity of a fundamental hypothesis. Like the great theories of natural science, the atomic, Darwinian, Nebular, etc., it in its smaller field covers and correlates a vast assemblage of isolated phenomena. Whether it will explain all the author believes it to do, is yet to be seen. To the writer of this critique the subject of edema seems but a minor phase of Dr. Fischer's generalization. In fact the caption is an unfortunate one for the book is in no sense a treatise on edema. Such a work would have demanded of its author a full, if critical, review of the past and current work of others

in the field; and some considerations of the clinical and pathological variations of the edematous conditions. All this is lacking. We have a statement, and a restatement and a reiterated statement of Dr. Fischer's contention that edema is dependent solely on acid formation in the edematous area, whose colloids so stimulated draw water to themselves and produce the edema. All other factors are dismissed. It is shown that edema can take place in dead tissue when a circulation does not exist, that its pressures are not accounted for by osmotic tension, that lipoidal or other surface repulsions are not demonstrable and insufficient. There is a ruthless criticism of every theory but the author's own, and the one particular failing of the book is this manifest lack of self-criticism. Convincing as the experiments and cogent as the arguments seem to be, the sober physiological chemist will ask for more in the way of quantitative evidence than is here given. He will ask that the amount of acid in an edematous organ be determined and shown to be greater than in similar non-edematous organs working under conditions productive of acid formation. Is the presence of fluid in cavities to be separated from edema? If not, how is it possible to account for fluid in the pericardium, pleura, or peritoneum, without evidence of the mesothelial linings having been edematous to the saturation point? Again in anasarca of the extremities, puncture permits the free escape of large quantities of fluid, the tissues will shrink, yet the flow continue for days. According to Dr. Fischer the colloids of such parts never reach their potential maxima of saturation. How then account for this flow? Can the colloids at one and the same time be so avid of water that they draw it from the circulation, and yet so loose in their hold thereon that a simple puncture permits its escape? Surely the puncture has neither decreased the acidity, nor increased the inhibiting salts. If all edema is to be explained by the production of acids, what about neurotic edemas? I draw my pencil over the skin of a patient and in two minutes a prominent white band of edema is present. Has acid been formed in that short period and how? Again, if colloids plus acids and water always swell, why is the gastric mucosa not chronically edematous? These questions are not asked in disparagement of Dr. Fischer's theory, or in criticism of the extremely valuable experimental work by which they are supported, but solely as a warning against a too facile conclusion that the problem is completely solved. As a matter of fact much contributory support could readily be gleaned from many a clinical field, to mention but one—obesity is so resolvable. Whether Dr. Fischer's enthusiasm be justified or not his contribution is most timely, and his trenchant criticism of current theories the best of all stimulants to further progress. The book is delightful reading, and the chapter on the colloidal explanation of the nature of the urinary secretion a thing not to be missed by anyone interested in that old battleground of physiological theory. H. D'A. P.

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The Practitioner's Case Book: For recording and preserving clinical histories. Prepared and arranged by the editorial staff of the Interstate Medical Journal. Imperial octavo; 286 pages; full cloth binding. Printed on bond writing-paper. With 80 colored anatomical charts (detachable), showing outlines of body and skeleton in light red and the viscera in pale blue. Index for listing patients both by name and case number. St. Louis: Interstate Medical Journal Co. Price, postpaid, $2.00

## TO REFUTE A SNEER.

To the Editor of the California State Medical Journal.

Sir:—Among the criticisms of our medical educational institutions and the exhortations to their betterment which enlivened the pages of the September number of the Journal there was a parenthetical mention of the San Francisco Polyclinic, the tone of which impressed me as being somewhat contemptuous. The anonymous writer says that "the San Francisco Polyclinic, chartered in California as a medical college, is not even mentioned by the Carnegie report in its study of the post graduate schools." This might be held to imply an oversight on the part of the Carnegie investigators, but an obvious alternative to this is an intimation that the Polyclinic is too insignificant to merit consideration even in an investigation of such wide scope as that upon which the Carnegie report was based. In the context the impression of malevolence towards the Polyclinic is deepened by your contributor's postulate that "Professional patriotism should make it impossible for any material to be diverted to a polyclinic" . . . "or any group of unproductive practitioners."

The San Francisco Polyclinic was founded twenty-one years ago by fifteen members of our profession who exhibited such diversity of character as might be expected in so numerous a body of reputable men, but who were all animated, it is safe to say, in this enterprise by their zeal for self-improvement. After having been connected with that institution for nearly twenty years, I am unable to descry any other benefit than that afforded by the opportunity for increasing their proficiency, which the staff could have derived from their activity in its clinics and laboratories. It must be a very cynical asperity that would impute to them less worthy motives. Dispensary work is commonly irksome, but their ardor for the acquisition of skill and knowledge and experience has impelled many to whom other institutions were closed, or afforded inadequate material, to continue in assiduous attendance at the Polyclinic during many years. As a consequence there are numerous practitioners in our community who confess their obligation to the San Francisco Polyclinic for the enjoyment of those advantages which have enabled them to attain merit and success in their respective careers.

Had the Polyclinic been less liberal in its policy of admitting all those who came properly accredited to a share in the utilization of its material and equipment it is probable that there would have been more such institutions in this city. I am not disposed to view such a contingency with disapproval, but your anonymous contributor would see in it an interference with the realization of his ideal of "the concentration of all material in a single clinical school located in San Francisco, where university ideals and resources would prevail." I presume that he does not expect that there will be founded in San Francisco, within a period which it would be worth while to contemplate, a clinical school more worthy of a monopoly of material than the great medical schools of continental Europe. Yet in Berlin and Paris and other large medical centers extra-academic polyclinics flourish in considerable numbers, singly and in groups. Such polyclinics are established in university towns by industrious and ambitious men who for one reason or another have no access to the material of the hospitals or out-patient departments of the local university. Every medical traveler in Europe has visited one or more of them and must have admired the benefit accruing to science and the individual from the labors of independent workers who "divert" material from the officially sanctioned institutions to their own (by the way, often very dingy) quarters. Those who

are acquainted with the career of the distinguished neurologist Oppenheim will readily appreciate what a loss medical science might have suffered if this new virtue of "professional patriotism" had prevented him from "diverting" material from the University of Berlin for the purpose of study by himself and his students.

Then the writer in the Journal objects to "groups of unproductive practitioners" who are guilty of "diverting material." Whether one is stung by the taunt of unproductivity depends on what one feels it one's duty to produce. It is not clear whether the Polyclinic is also accused of unproductivity. Forestalling, however, such an accusation I will say that if "unproductive" refers to literary sterility the charge is exaggerated; but I will not pretend that the contributions of the Polyclinic staff to medical literature amount to more than those which issue from the faculties of the under-graduate schools in San Francisco.

These are times of strenuous endeavor, and the enthusiasm associated with high aspiration for improvement is apt to engender a sort of canting criticism which underrates the worth of existing conditions. Such cant is implied in the demand that, in compliance perhaps with the present tendency to combine forces for laudable or reprehensible purposes, a medical monopoly should be established, from which it would be a violation of a valuable principle to divert material for practice or research. That such a monopoly would be generous and comprehensive enough to include all those who would be entitled to profit by its prerogatives, and that all those who might be excluded would meekly acquiesce in their exclusion and waive the right to seek the means of promoting their medical skill and knowledge, if necessary, by organizing an independent institution, would be an assumption in disregard of the foibles and the strength of human nature.

If a San Francisco Polyclinic did not exist there would be a creditable incentive to create one. That one did exist at the commencement of my career I have so much reason to be thankful for, that gratitude impels me to resent its disparagement.

LEO NEWMARK.

## RESOLUTIONS COMMENDING DR. RUCKER.

On the evening of October 12th a number of the personal friends of Dr. Rucker met in San Francisco to express their sympathy and their confidence in him, and to unite in protesting against the slanders which, through political machinations, have been heaped upon him in the city of Milwaukee. The following resolutions were adopted:

Whereas, Certain charges have been lodged against Passed Assistant Surgeon William Colby Rucker, United States Public Health and Marine Hospital Surgeon; and

Whereas, It has been found that these charges are absolutely without foundation and have been made with malicious intent and with the purpose of injuring the character and professional standing of Dr. Rucker; and

Whereas, Dr. Rucker has been fully exonerated of these charges by the Court, the Common Council, the Mayor of Milwaukee, and the Surgeon-General of the United States Public Health and Marine Hospital Service, and the purpose and purport of them clearly shown; be it

Resolved, That we, his friends and fellow workers in the San Francisco Sanitary Campaign in which he took such an active part, do hereby express our full confidence any sympathy and our deep regret that such a slanderous calumny should have been voiced against a physician whose splendid achievements and sterling character have won for him a national reputation.

Resolved, That a copy of these resolutions be sent to Dr. Rucker and the various bodies in this city who have been actively interested in his work.

## THE CERTIFIED MILK FUND.

The Certified Milk Fund and Baby Hygiene Committee of the Association of Collegiate Alumnae, has been asked to take charge of the program for the Associated Charities luncheon on October 28, and to emphasize the value of medical inspection of infant feeding in relation to the city's wards. This fund has enabled the boarding-out babies of the Associated Charities to have certified milk as food.

The program arranges itself rather naturally as follows:

1. The National Movement for the Prevention of Infant Mortality.....Adelaide Brown
2. The Preliminary Care of the Expectant Mother and Her Care During Confinement, as conducted by the San Francisco Maternity, the First Step in Conserving Infant Life.....A. B. Spalding
3. The Rise in Scientific Infant Feeding and the Work of Medical Milk Commissions .....E. C. Fleischner
4. A Year's Work at the Associated Charities in Infant Feeding.....Anna E. Rude
5. The Dependent Child Kept Well—A City Economy.....Langley Porter
6. The Dependent Child in Its Home. Miss Felton

These speeches are to be limited by the chairman, Mrs. Graupner, to eight minutes.

The luncheon takes place at the St. Francis Hotel, at 12:30 o'clock, Friday, October 28.

## DISAPPEARED.

Dr. John Edward Shaw, of Mill Valley, Cal., graduate of the Royal College Physicians and Surgeons, Edinburgh, Scotland, and licensed to practice medicine in this state (California) in 1894, license number 3697, disappeared from his home August 17, 1910. Any information regarding his whereabouts will be appreciated. Address communications to the "California State Journal of Medicine," 930 Butler Building, San Francisco, Cal.

## NEW MEMBERS.

**Owen, J. A.**, Red Bluff.
**Tarter, A. P.**, Tehama.
**Fife, John**, Red Bluff.
**Zimmerman, H.**, Red Bluff.
**Bailey, F. J.**, Red Bluff.
**Cameron, J. S.**, Red Bluff.
**Doane, F. L.**, Red Bluff.
**Sponogle, F. M.**, San Francisco.
**Walker, C. A.**, San Francisco.
**Kinslow, F. A.**, San Francisco.
**Von Werthern, Jos.**, San Francisco.
**Williams, R. B.**, Sausalito.
**Harris, Eva L.**, Oakland.
**Toner, M.**, Berkeley.
**Winslow, T. H.**, Oakland.
**Chamberlain, N. H.**, Oakland.
**Cunningham, A. L.**, Oakland.
**Burges, E. R.**, Oakland.
**Damkroeger, H.**, San Francisco.
**Goodman, E.**, San Francisco.
**Johnson, H. C.**, San Francisco.
**Logan, R. L.**, San Francisco.
**Lagan, E.**, San Francisco.
**Rottanzi, T. A.**, San Francisco.

### Resigned.

Miller, Thurlow, San Francisco.

### Deaths.

**Simmons, G. L.**, Sacramento.

# California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

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IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be Typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. VIII DECEMBER, 1910. No. 12


## EDITORIAL NOTES.

**EIGHTH VOLUME.**

With this, the December issue, the Eighth Volume of your JOURNAL is completed. When we began publishing there were many of our members who had grave doubts that even the first volume would be completed; but we are still here and the JOURNAL will probably continue to be issued long after the original doubts or the early struggles have been quite forgotten. If you would see the JOURNAL continue to grow and to improve as it ought to improve, then help to bring about that result. The JOURNAL is almost entirely just what the members of the Society make it. If they write better papers, if they contribute good suggestions, valuable case reports, scientific reviews or editorials of value, by just that much do they improve their own JOURNAL. There are a few (fortunately only a very, very few), captious critics who find little if anything in the JOURNAL to meet their approval. But they do not count; they seldom approve anything very much, unless it is their own work or something with which they have had to do. During the year just closed, more help and co-operation have been given to the editor than in any previous years; the Publication Committee has been more active in the work of securing scientific matter of value. To all of the various gentlemen who have helped, and especially to Dr. Lartigau and to Dr. Russ, the editor wishes to express his very sincere thanks. Criticize anything you see to criticize; help all you possibly can to make the JOURNAL bigger and better; but don't knock. Aimless knocking hurts everybody and does nobody any good.

**THE NEXT LEGISLATURE.**

In January the legislature will begin its sessions and we should carefully consider some things in advance of that event. There always have been those who wish to break down the slight protection afforded the public by any sort of a decent medical law, and there doubtless always will be such; therefore, we may expect that bills will be introduced either creating a new medical law or emasculating the present one. Also, there may be attempts to create special licensing boards; similar bills have been introduced at every session. If it has not already been done, each and every man who has been elected to the legislature should have this matter carefully and fully explained to him before he goes to Sacramento; after he gets there the pressure of work makes it almost impossible for one to devote a great deal of time to the consideration of these questions. The medical law is a police regulation intended for the protection of the public; it is not intended for the protection of the medical profession and the Supreme Court has decided that it is not a law of that class. Special licensing boards mean only one thing—easy entrance into the practice of medicine for persons who can not or will not pass the required examination. The basis of the present law is sound and just; it requires that anyone of any school or sect must demonstrate that he knows enough of the make-up of the human body to do the minimum of harm. It does not favor any school or class but treats all alike in every particular. All bills creating new boards of examiners in any way should be defeated; all changes or amendments to the present law should be defeated. The time will come when we can establish a safe reciprocity with other states, but it has not yet arrived. The present law is not perfect, but it is about as good as anything we could get and it does furnish the public with reasonable protection against ignorance and greed. Explain these matters to our legislators before they go to Sacramento and get too busy to take time to think them over.

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**A MEDICAL CLEARING HOUSE.**

That is what we are trying to make the office of the State Society—a medical clearing house. A place where all the various lines of medical interest and activity in California will center. Practices for sale or exchange; locations wanted or open; offices to be shared; office attendants wanted; everything of that sort should find its way naturally to the office of the State Society. If the Society exists at all, it exists for the benefit of its members and the more benefit it can be to them, the more do they appreciate the Society, thus increasing its strength and its influence. Co-operation is the essential spirit of the Twentieth Century. Co-operate right here at home and thus, incidentally, do yourself some good; you never can tell when *you* may want a little co-operation. Help us to make the office of the Society useful in the way suggested and you will find, some day, that you have helped make for yourself a very useful institution.

**ACTION OF ATOXYL ON EYES.**

The experimental and clinical demonstration of the destructive action of certain complex organic arsenical compounds upon trypanosomes and spirochaetes has stimulated extensive studies of their effects in the human body under various conditions. While the beneficial clinical action of these substances cannot be denied experience has shown that their use is not entirely free from certain dangers. Atoxyl which is one of the earliest of these compounds introduced into practical medicine has been universally employed for some time and therefore has been best studied. Among a number of untoward symptoms noted following its use, blindness occupies a prominent place as shown by the interesting contribution recently made by Dr. Kurt Steindorff of Berlin (Berliner Klinische Wochenschrift, October 3, 1910). From a careful search of the literature he has been able to collect as many as 95 cases of disturbances of vision or actual blindness following the use of atoxyl. Judging from the case reports it would appear that the ocular disturbances are often preceded by other manifestations of intoxication, such as general malaise, more or less dizziness, headache, nausea or vomiting, coliky pains, deafness, lowering of the body temperature, and renal disorders.

The symptoms referable to the eyes consist of varying diminution of the sight with concentric diminution of the field of vision, more on the nasal than on the temporal side. The examination of the eye-grounds is at first negative with possibly the exception of some constriction of the retinal arteries and venous congestion. After a time usually a few weeks the papillae appear pale, and the condition progresses with considerable rapidity to complete optic atrophy, associated with augmenting dimness of vision until blindness is complete. The outlook is serious for stopping the drug does not appear to check the progress of the process nor does other treatment seem to have any effect for improvement.

The ocular symptoms are evidently not a result of the disease for which the drug was employed for in the conditions in which it was used ocular symptoms of this character are unusual. Chronic alcoholism predisposes to the development of the complication. On the other hand, an eye already the subject of disease often shows an increase in development of the original disorder. Thus Wassermann noted in some of his cases of tabetic optic atrophy rapid progress of the ocular lesion while the patients were under the influence of the drug. An analysis of the modes of administration in the cases in which these ocular manifestations were observed does not throw any light on the subject. However, it has been suggested by Beck that the patients in whom the more severe symptoms were noted, had received small daily doses without interval for a long time, or large doses at short intervals and that this may have had some influence in the production of the ocular disturbances. Conditions of age, sex, severity of the disease for which the drug was given, or whether the drug was administered beneath the skin, into the muscles or subarachnoid space do not appear to bear any relation to the incidence of the unfortunate complication.

The pathology of the condition has not yet been fully investigated. Nonne, however, has reported the results of a microscopic study in one case. The retina was not examined but examination of the optic nerve showed symmetrical degeneration extending back to the chiasma. No inflammatory reaction was observed. Whether the anilin or arsenic constituent of the atoxyl molecule is responsible for the process is difficult to say, both substances in rare instances leading to eye disorders, usually, however, of the nature of an optic neuritis rather than primary atrophy as is the case with atoxyl.

With these important facts in mind greater care will have to be exercised in the use of this drug and probably of other more or less similar preparations. Thus arsacetin although much less toxic than atoxyl has also given rise to more or less similar symptoms to those following the use of the stronger and therapeutically more effecient atoxyl.

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**A WORD ON ADVERTISING.**

The editorial notes on advertising, which appeared in the October JOURNAL, have brought fourth a number of quite interesting letters from members, from advertisers and from other publications. We are making an effort to find out which advertisers are getting direct returns from their advertisements, and the result, so far, is remarkably gratifying. Certainly the letters thus far received are at least significant of one thing—more different kinds of people read such editorial notes than was supposed. But the advertising question and advertising in general have gone through a veritable revolution in the last few years, and if your JOURNAL did not start it, at least we were in at the start. The STATE JOURNAL was almost the first publication in this country to announce in its editorial columns the fact that it assumed responsibility for its advertisers. Of course, we have been "stung" occasionally, but in the main we have had clean pages and those who patronized our advertisers have had a square deal. The proprietary medicine question is now practically settled; only time is now necessary to make the work of the Council on Pharmacy and Chemistry complete and place all proprietary preparations where we shall know exactly what class each belongs in. The prominence of the manufacturer will have no weight as against the word of the Council; these preparations will stand or fall on the truth and not on what the manufacturer may say about them. The time for continuous adverse comment has gone; the time for judicious commendation has come, and we shall start the new year—and the new volume of the JOURNAL—with some words of that sort. Our advertisers are good; their preparations are good; they should be understood and supported and our readers should take a positive and personal interest in them.

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**ETIOLOGICAL FACTORS IN APPENDICITIS**

The importance of the bacillus coli communis as a primary bacterial factor in the development of appendicitis has been generally asserted by most writers upon the subject. To question at this late

date the accuracy of this belief may appear to many nothing short of anarchy; yet recent investigations touching upon the etiology of appendicitis have raised doubts in the mind of the critical observer as to the correctness of this generally accepted assumption. This relation of the bacillus coli communis to appendicitis had its origin in the results of early researches upon the bacterial flora of inflamed appendices, obtained either from operation sources or the post-mortem room. What ever the source of the material it is evident that the bulk of it represents well marked and well advanced lesions. Moreover, at the time much of this work was carried out bacteriological technique lacked the delicacy and refinements of modern methods; furthermore, most if not all of the earlier studies concerned themselves solely with aerobic conditions.

To the uncritical mind these points may seem unimportant in view of the fact that all the pioneer investigators concurred in the opinion that the colon bacillus was the most constant finding in inflamed appendices, but it may here suffice to point out that this organism has since been shown to easily overgrow primary but less hardy invaders. Since much of the investigated material has of necessity been from advanced cases of the disease one may clearly see the possibility for erroneous deductions. Working with material representing the very early stages of appendicitis and using cover-slip controls, later observers have found that the colon bacillus has usually been associated with other bacterial forms mainly streptococci, whereas the early investigators rarely observed them. On the other hand, the application of anaerobic methods, lamentably neglected in such studies, in the hands of a few recent workers has thrown a flood of light on the etiological importance of this class of micro-organisms in this disease. Thus Veillon and Zuber in an investigation of twenty-two specimens demonstrated anaerobic organisms in twenty-one; more recently Perrone, Lanz and Tavel, Grigoroff, and Gilbert and Lippmann have confirmed the findings of these observers. Veillon and Zuber were the first to point out the importance of anaerobic bacteria, particularly streptococci, as causative factors of gangrenous forms of appendicitis.

While one of the most promising fields in the study of appendicitis lies in studies bearing upon the anaerobic flora the history of the etiology does not end here. In 1901 Metchnikoff presented to the French Academy of Medicine the history of six appendiceal cases associated with intestinal worms. The administration of a vermifuge was followed by cure. Since this contribution which has opened new vistas into the pathogenesis of this condition Girard, Guinard, Kirmisson, Batut, Vallerio, Unterberber, Weinberg and others have recorded numerous instances of verminous appendicitis. The ascaris has been most commonly noted, the oxyuris and trichocephalus being less frequent.

The literature dealing with the pathogenesis of appendicitis is very large and is still growing, but the final word upon the subject still remains unsaid.

## THE FUNCTIONS OF THE COUNTY MEDICAL SOCIETY

Many of its members look upon the preparation and presentation of an adequate scientific program as the sole function of the County Society. Such a view is short-sighted in the extreme. The functions of the society are many and arise from (1) the relations of its members one to the other, (2) the relation of its members to the community. From the first set of relations arise the functions that arrange for exchange of experience, information, and clinical programs, and lays down rules for courteous and fair relationship between members in ethical codes, and means for enforcing the codes by committees of ethics.

A much neglected but essential function that also arises from this relationship of members, one to the other, is the encouragement of social intercourse. Without some machinery for bringing its members together in their lighter moods, the society fails in an important part of its duties. Luncheons, annual dinners, and an occasional smoker should be included in the society's plans as of equal importance with scientific programs. Many of the fogs engendered of jealousy and back-biting would fade under the sunny influence of understanding acquaintanceship. Solidarity and power can only come to a society by the cultivation of a generous knowledge, and appreciation of one another amongst its members.

Neglected as this function of the society usually is, it is far less in abeyance than the functions that arise from the relations of the members to the community. These should receive equal thought with those of the first group; because the dignity of the profession depends on its assuming and fulfilling its duties to the community, and the living and comfort of most of the society's individual members, especially in a city, depend on the society's willingness and ability to make the community deal intelligently and fairly with the society's constituents. Emphatically, it should be the policy to take active interest in matters pertaining to the public health, without in any way entering into partisanship, to uphold and commend good work done by the departments of health, and equally to condemn any steps that such departments might take detrimental to the community's good. Equally it should be the policy of the society to heighten the regard of the community for the attainments of our professions by inaugurating through newspapers and by popular lectures, education in what medicine has done, and is daily doing to alleviate suffering, and to aid humanity. Further the society should provide some practical means of enforcing the community's obligations to its individual members. There should be some definite plan devised and put into action to prevent the abuse of club and hospital contract practice, and action should be taken by every county society to insist that patients who contract for physicians members' services, if able, should pay for them, and render it impossible for the wilful swindler to steal from doctors one after another their time and labor.

If our county societies realized and practiced only this few of many legitimate functions, it would not be long before the membership would include all the practitioners of their community.

# ORIGINAL ARTICLES

## SYMPOSIUM ON THE TONSILS.

Fortieth Annual Session, Medical Society of the State of California.

## THE ENUCLEATION OF THE TONSIL FROM THE STANDPOINT OF THE GENERAL MEDICAL MAN.

By LANGLEY PORTER, M. D., San Francisco.

In the pediatric clinics of San Francisco so great a proportion of the children have abnormal tonsils that there is a distinct sense of pleasure when the faucial view reveals an entirely healthy mucous membrane, and what is true of the clinic patients is true, in only a less degree, of those encountered in private practice.

It is difficult to establish what is a normal tonsil at various ages, and out of many tonsils examined there are few which do not show traces of old inflammation or of hypertrophy. But one can perhaps go so far as to say that for the first four or five years of life normal tonsils are globular, deeply imbedded structures, and that after this the deeper portions tend to atrophy.

The facts being such, the problems that lie before the practitioner are (1) to decide what type of chronically diseased tonsils can be treated medically with a fair prospect of success. (2) When he finds it necessary to transfer a case to the specialist, to decide if the patient shall be sent to an operator who believes in enucleation or to one who practices tonsillotomy.

In deciding the first question, the physician must recognize that inflamed buried tonsils are more menacing to the patient's health than are simple hyperplastic tonsils and for the most part even more than are hyperplastic tonsils which are undergoing chronic inflammation.

The evil results of mouth breathing are so generally recognized that adenoids are usually promptly removed as well as the simple hyperplastic tonsils which often accompany them. It is this type of tonsil, the least damaging, which is most often enucleated, although very often a complete removal of the accompanying adenoid is followed by a shrinking of the tonsils. This is especially true when the condition occurs in infancy. The buried tonsil or the moderately inflamed enlarged tonsil with marked anterior cervical adenitis may be, and often is, passed over to the detriment of the patient. Case reports of the toxic and septic aftermath to acute tonsil infection are oft recurring in current medical literature. Nephritis, arthritis, pleuritis, endocarditis, pericarditis, pyaemia, tuberculosis, rheumatism, chorea, these are all stated to have followed infection through the tonsil and such statements are confirmed by clinical evidence. Those of us who deal much with children have in our case books many records that bear the same testimony, but if we study these records carefully we will see that the major part of such affections arise in patients whose tonsils are either of the buried or the moderately enlarged, chronically inflamed type; also that such invasions of the body rarely follow a first attack of tonsilitis, rather they are characteristic of the acute exacerbations of chronic tonsilitis. Extensive experience with the exanthemata will convince anyone, as literature shows it has convinced many, that the virus of measles, scarlet fever, rubella, and diphtheria gain a foothold in the crypts of diseased tonsils and spread from these ideal breeding places.

While most physicians are convinced that such recurring infections of the tonsils make operative interference imperative, only a few are impressed with the states of chronic digestive disturbance and malnutrition that accompany the enduring low grade inflammations of buried or partly buried tonsils. Slight wasting, moderate enlargement of cervical glands, anorexia, anemia, languor, sometimes chronic or periodic vomiting, well marked recurrent slight fevers, and disturbed sleep, make up a clinical picture that disappears once the tonsils are removed. Marked degrees of cervical adenitis may on the other hand arise from toxins or bacteria borne from crypts to glands in the abundant lymph streams that drain the tonsils. There can be no doubt that many children are, without necessity, subjected to multilating operations for removal of glands of the neck. Many of these glands supposed to be tubercular are in reality not so, and will promptly disappear on removal of tonsils. The statistics of Sewall at the Cooper Medical Clinic show that more than one in eighty of tonsils removed are tubercular. Even if the glands be truly tubercular, no operation for their removal can be considered rational that does not also contemplate coincident removal of tonsils. In most cases these lymphoid structures constitute primary foci of the disease and if, as is rarely the case, they are free of this organism the probability is that toxins passing from them to the lymphatics so depress resistance that glands are rendered more susceptible to damage by tubercle.

A girl of fourteen for eight years had borne a mass of enlarged glands. Some of these had broken down and for five years the patient had been plagued with a discharging sinus. Operation had been advised by a number of surgeons, and refused because it was proposed to do the extensive dissecting operation to remove both superficial and deep chains of glands. The tonsils were taken out, and one calcified gland in the line of the sinus was removed. The sinus promptly healed, the glands receded, the girl gained eight pounds in five months and is now a round and ruddy picture of health.

Again, a baby eight months old with enormous cervical glands had been operated on and presented an open sloughing wound three inches long, Further operation was performed. The surgeon despaired of the child's life. It was rapidly losing weight and seemed in extremis. At this stage the operators were prevailed upon to allow removal of the tonsils, both of which were shown on pathological examination to be tubercular. Immediately the child began to improve. It was, however, necessary to operate again to remove a number of glands that became enlarged after the tonsillectomy. But the general nutrition of the child improved, he responded, as he had not done before, to dietetic treatment and the neck tissues for the first time began to heal. To-day at the age of fourteen months he is a happy, fairly nourished child rapidly returning to health. Wood has clearly shown by a series of beautiful in-

jection experiments that it is possible for materials entering the tonsils to follow the deep glands and lymphatic vessels and so reach the pleural cavity and even the lung apex. He believes that this is the usual course of infection in many cases of apical infection.

Such facts enable us clearly to see what we can gain by operation for patients suffering from one or another type of chronic tonsillitis. But before deciding to send our patients to operation, we must consider the possibilities of damage from the operation and whether such possible damage out-balances the almost certain gain. Aside from the possible damages inherent in all operations arising from anesthetic or from accidents the critics of tonsil operation claim that functional damage may follow (1) from loss of the specific function of the tonsil, (2) from injury to singing voice, (3) from damage to the faucial pillars, (4) from hemorrhage.

To take up these points in reverse order every physician who sends his patients to a colleague for tonsillar enucleation must do so realizing that severe hemorrhage may follow the operation. One who has viewed the work of many operators during the past two or three years must be struck by two things, first, that many cases of excessive bleeding are due to faulty technique and second, that the operators are constantly improving technique and reducing the factor of danger. (2) From damage to faucial pillars more especially the posterior. This again is a matter of technique; damage has been known to result in such impairment of the soft palate's action that regurgitation through the nose has resulted, but such accidents are so infrequent as to be negligible; fourth, injury to singing voice is constantly feared. How anyone with marked enlargement of tonsils or the turgid injected fauces, that accompany buried tonsils, could ever develop a transcendent singing voice is beyond the imagination of man and like the objection to possible permanent injury following damaged pillars may be ignored.

The possibilities of evil that may follow loss of tonsillar functions worry many minds, just as the same kinds of minds were troubled years ago about the ills that might afflict the appendixless individual after removal of that organ. The best answer to that criticism is to point to the thousands of children who have been changed from pale, anaemic, ill-nourished individuals into rosy, full-fleshed little ones, merely by enucleation of diseased tonsils.

All the evidence that clinical experience and biologic fact bring to bear on the subject, tends to show either that the tonsil is an accident of development, or that if it has any specific function, that function is for the most part, fulfilled before birth and ceases at a very early day of post natal life.

After an extensive study of the comparative anatomy of the tonsil, Hett and Butterfield have shown that in its most primitive form the tonsil is merely a tube lined with mucous membrane prolonged from the pharyngeal diverticulum. In a later type as found in monkeys, the tonsil is a pocket-shaped recess surrounded by lymphoid tissue. The third type zoologically, the solid projecting tonsil, is an evolution from the pocket form. Here the lymphoid tissue is massed on the lower lip of the pocket to such a degree that it forms a protuberant mass, and the remnants of the pocket which represent the primitive pharyngeal diverticulum remains as the supra tonsillar fossa which is within the capsule of the tonsil. Only because of the excessive development of lymphoid tissue on the outer wall of the tonsillar sac does the fossa seem to be above the tonsil. These facts of development seem to suggest that the epithelium of the supra tonsillar fossa, and not the lymphoid masses of the tonsil, is the important part of that structure and, if such be the case, any danger from loss of the tonsils' function becomes so remote that in the face of the very real dangers, that we know do arise from diseased tonsils, we cannot but decide to have these menacing lymphoid masses removed. And once such decision is made, why should anyone choose to have an incomplete unscientific guillotine operation performed when enucleation is a procedure that fulfills every surgical principle? Time after time, in clinics and in practice, a child whose tonsils have been clipped comes to us suffering with all the signs and symptoms of chronic toxaemic malnutrition, and once the remaining lymphoid tissue is cleared away the patient's nutrition improves with gratifying rapidity.

One little girl of seven, who was the despair of her fond parents, had attacks of recurrent fever, occasionally accompanied by vomiting. She was much below weight, was irritable and in that state of nervous hypertension that might well be called the prechoreic state. Her parents could not believe that the tonsils were in any way to be blamed for her condition, as they had been removed at great expense by a celebrated specialist. In the meantime the child had courses of quinin for malaria, of urotropin for pyelitis, and had her right illiac fossa observed with breathless interest for weeks at a time. However, after a removal of her tonsillar stumps and of a tiny remnant of adenoid the child made an uninterrupted recovery and put on eight pounds of weight in three months.

Gentlemen, from the standpoint of the general medical practitioner, any tonsil that is markedly enlarged or subject to attacks of recurring tonsilitis should be removed, but removal of such is less important than is the excision of the buried tonsil for this it is, that is the source and origin of those chronic toxaemias which by depressing resistance open the way to the invasion of all sorts of infections.

## THE ENUCLEATION OF THE TONSIL, A SURGICAL, NOT A RADICAL PROCEDURE.

By ALBERT J. HOUSTON, M. D., San Francisco.

By way of introduction, I wish to apologize for the lack of novelty in my subject, and for the fact that I have nothing new and startling to present. The ground has been gone over so well and so thoroughly so many times that I was under the impression that there was no longer room for argument until I was asked to read a paper upon the subject. The only reason for this paper therefore is the desire to prove to those of you who may be in doubt that the so-called radical operation is not,

strictly speaking, radical at all, but a plain, straightforward surgical procedure, necessitated by the exigencies of the problem, and the method of election.

My convictions are the result solely of my personal experience and are largely a matter of evolution. I began my career with a guillotine and punch. I found that the guillotine did excellent work, but that I had to select the easy cases. Those tonsils which were small, non-protruding and difficult, I endeavored to punch out and remove with scissors and forceps. Out of 51 cases operated thus, 3 left and could not be persuaded to return for more; in 4 the operation was followed by acute tonsillitis in the remaining portions; 2 had severe hemorrhage; and nearly one-third of them, on later inspection, revealed disappointing results, some requiring reoperation. The guillotine cases were more successful, but as I have said, they were selected cases, the easy ones. Plainly this would not do. I was getting good results in only a limited class of cases. In others my work was inefficient, and I was getting results that were far from satisfactory to the subject or to me.

In 1904 I began to dissect them out thoroughly, or try to. We had great difficulty with the tongue, with the gag, with the light, and tried all sorts of instruments. I am very sorry to say that I bungled a good many cases and that it was only after a year's work that I acquired sufficient skill to be reasonably sure of doing a thorough job. And now, after more than 500 cases, I am free to say that in all of them together, I have had less trouble than in the 50 cases done with the punch, etc. Others have gone through the same evolutionary process; have been driven to resort to a more thorough method in order to protect themselves from the nemesis of bad results, and to give their patients complete and permanent relief. And the concurrence of the majority of American throat surgeons in accepting this method is excellent evidence, not only of the necessity of the operation, but of their satisfaction with the results; its acceptance being simply a recognition that diseased tonsils are a problem in surgery to be attacked with the same care and thoroughness as any other, instead of being timidly tinkered with.

Before we accept and standardize any operation there must be two considerations: it must surpass in efficiency and not fall short in safety. As regards efficiency, we must consider the purpose to be attained: Why, in other words, do we have to remove tonsils? The first class of cases requiring removal are those whose damage is purely obstructive—due to size. These in my cases have constituted one-third. We may grant that in many of these cases simple amputation would give relief, but not in all. The leaving of a broad stump or a hidden upper lobe keeping up inflammation in the Eustachian tube is not thereby much helped. Moreover, a certain percentage of them recur. When we stop to consider that the original cause of the hyperplasia was infection, and that if we leave a stump with infected crypts, the hyperplasia recurs, it then becomes simply a corrollary, that if we do not wish recurrence, the whole tonsil should be removed, even though the manifest disturbance be only that of obstruction.

The other two-thirds of the cases I have had to operate have, however, been of a different nature. These are not as a rule enlarged and their obstruction is a negligible factor. The majority of them have been sent by the physician or internist with the request for removal for some absorption of infection or of toxic products.

In this class of cases we may include those of cervical adenitis the relation of which to tonsillar infection is a universally accepted fact and has been definitely proven in certain cases by investigations of Wood and Goodale.

We may also include those cases of tonsillitis associated with tuberculosis. There are a sufficient number of cases reported to make us always suspicious of diseased tonsils as a factor in tuberculosis. Goodale has reported 15% of tonsils removed for other causes to show tuberculosis. Solenberger reports 62% of his tubercular patients to have a history of tonsillar infection. We must therefore recognize at least the possibility of some connection. Nor must we forget those cases in which the resistance of a tubercular patient is kept low by the presence of an infection other than tuberculosis through the tonsillar crypts.

In this class of cases also, we must consider those associated with rheumatism. Such connection has long been recognized, and clinically it is an undoubted fact that many cases of acute rheumatism are ushered in by tonsillitis, and furthermore that many cases of chronic rheumatism have been benefited by removal of tonsils. Robertson gives the tonsils as the cause in 30% of acute and 90% of chronic rheumatism. Arthritis of various forms is frequently referred to infection through the tonsils. Within the past month I have had a case referred to me for removal of the tonsils for atrophic osteo arthritis, supposed to result from slow absorption through the tonsils, in the absence of other lesion. As this patient is 60 years of age, I have hesitated to operate. I cite this to show that oftentimes the pathologist and internist are the radical men, and that we, with a wholesome fear of the operation, are often loath to follow.

There are many other classes of troubles supposed to be due to tonsils, and for which we are asked to remove them, such as recurrent quinsy, or the keeping up of an irritative throat cough in children, obscure temperatures, and slow toxemias apparently of tonsillar origin.

All of these cases, two-thirds of all, may be called infective; and as it is recognized that systemic infection occurs through the epithelium of the crypts, it necessarily follows that to remove the possibility of invasion, we must remove the crypts. And the removal of the crypts involves the removal of the whole tonsil or its ablation, inasmuch as it is mechanically impossible to get rid of all crypts otherwise. In this two-thirds of all cases, I think we may say that the cause for removal necessitated a thorough removal.

Physiologically considered, if we agree with Goodale that a tonsil is identical with a cervical lymph node, then it is quite as necessary to remove it in toto as in removing any other diseased lymph node. And if we agree with Jonathan Wright

that it is the sunken, ragged tonsil, not the large one that lets through the dangerous germ, then it behooves us to have some efficient method of handling these small ragged tonsils. We need not go so far as Bosworth as to say that all tonsils are morbid growths, but we *must* acknowledge that the animal economy seems to get along perfectly well without them, and that no dire physiologic results have followed their removal.

The ultimate aim of the operation is the relief of the symptoms, and that operation is best which does this with the greatest efficiency. There can be no question as to the efficiency of this operation. Ten per cent. of my cases have been operated previously by some other method. Ward in 800 cases reports 129 previously operated, which means that 10 to 20 per cent. of other operations are not efficient. Now the men who are doing this so-called dissection are all agreed that it is rare to have to reoperate. I confess that those I have had to reoperate are to be charged to my lack of skill, rather than to the operation.

As regards the second consideration upon which the operation must stand, comparative safety, there is more room for discussion. No operation must be attended by danger relatively greater than the advantage to accrue; and to be the operation of election, it must be at least as free from danger as any other.

For the purpose of clearness we may classify the dangers in three groups: hemorrhage, anesthesia, infection.

As to hemorrhage, the Lord has not yet given us a tonsil operation that is not at times accompanied by hemorrhage. At least one fatal case in San Francisco has followed the guillotine. The worst I ever saw followed the cold wire snare in the hands of a skillful colleague. I have had two bad hemorrhages in cutting out pieces. In fact, I have three hemorrhages in 500 dissections, as against 2 in 50 by other methods. Hemorrhages from bleeders is beside the question. You get it with any method and personally, if I ever were to have such a patient, I had as soon be doing a tonsillectomy as a tonsillotomy. Injury to the carotid may likewise be disregarded, inasmuch as there is only one authentic case, and is purely accidental. Because somebody has opened a misplaced carotid is by no means sufficient reason for abandoning an otherwise successful operation.

Nearly every observer has reported hemorrhages. Some 180 cases of primary and 60 of secondary have been collected by Richards, who concludes from their review that there is less hemorrhage from tonsillectomy than tonsillotomy. Personally I have found that the cleaner and more thoroughly I do my work the less bleeding I have. We must, however, recognize that we may get it at any time with any operation and when we least expect it. If we do recognize this, it seems to me we ought to choose that form of operation in which, if we do encounter it, we are best able to cope with it. Now in the complete operation we have an anesthetized patient in a hospital with every emergency equipment, hot sponges, artery clamps, etc., and in preparedness lies safety. We stop the bleeding from the first tonsil before we touch the second, and stop the second before we remove the adenoid. We do not let them come out of the anesthetic until it is all stopped. It is as a rule surprisingly easy to control it with hot sponges or artery clamps. If necessary, as I have had to do three times, the pillars can be sewed together. I honestly believe that if we go about this operation with the same surgical care and preparedness for emergency as we do any operation in general surgery, that hemorrhage is not only actually less, but that we are so infinitely better prepared to handle it that it really becomes only a surgical incident and is largely robbed of its danger. I have never seen a case in which comparatively simple means did not suffice. Still if, as in six cases reported by Jackson, the carotid must be tied as a last resort, we are here much better able to do it.

As regards secondary hemorrhage, such an equal number of cases have been reported from various methods that I doubt any particular method is freer than others from it. Delayed primary hemorrhage is certainly more apt to follow a cocain and adrenalin operation. But true secondary may come after any operation, and in my own experience is practically always due to carelessness. If we keep our patients in bed, rigidly enforce the diet, and control cough, etc., we minimize the possibility, which is slight at best, but present after any operation.

The second element of safety is anesthesia. There is a veritable battle-ground. Were some means devised for operating without anesthesia, we would certainly take away the greatest risk. But anesthesia of some sort we must have, neither adults nor children will permit us to do much of an operation without it. In good patients we may use cocain. But even so, a death has been reported in New York during cocain removal, and personally I believe ether in the hands of a skillful anesthetist to be about as safe as the necessary injection of cocain. With cocain the gagging and retching of the patient is often so annoying as to preclude the possibility of clean work. And in case of hemorrhage I am sure we would all prefer to handle it with the patient on the table under anesthesia. One of the horrors of surgery is a tonsillar hemorrhage with a scared patient.

Every man who operates much is bound to have trouble at some time with anesthesia. My experience has been bitter. In April, 1906, I lost a case on the table from chloroform anesthesia. There was no bleeding; the child simply passed out during the operation and it was not realized until too late. Recently in doing an operation at the French Hospital I was given an untrained anesthetist who insisted upon chloroform. A few seconds after beginning to operate, the pulse nurse called attention to the bad pulse. He said it was all right. I felt the pulse and found only a flutter. We knocked the mask off the face, immediately gave ether, comphorated oil and nitrate of amyl., compression bandage to the legs, and artificial respiration with oxygen. After half an hour's work we were rewarded by the return of normal pulse and respiration. Both of these accidents were avoidable. Neither was a

case of status lymphaticus, but both were simply cases where the anesthetist was not sufficiently close in his observation of the condition. In neither case was the warning heeded, and in both more anesthetic was given after the danger signal had been sounded.

Others have had similar experience. Of 29 fatal cases recorded, 26 have been with chloroform. I believe ether by the drop method or Junker to be safe if we have an anesthetist who is trained, cautious and observant. The risk, I think, hinges largely upon the personal equation of the anesthetist. No anesthesia is more technical. It should be left to specialists who are familiar with that kind of operation. Nor do I believe that under the light of present testimony we have any right to use chloroform at all.

I believe that by the use of ether given by a trained anesthetist, we can minimize the risk and make the anesthetic as safe here as it is with any other operation. We must, however, recognize that there is always some risk, must explain it to our patients and let them decide if the results sufficiently outweigh it. It is our moral duty to recognize this risk, and guard against, but because there is this very small percentage of danger, as in all surgery, is no reason for abandoning an otherwise good operation and substituting one inferior in efficiency. If the tonsils have to be removed at all, we will have to have an anesthetic in the majority of cases. The added advantage of being able to do thorough work, and being able to cope with bleeding, I think more than offsets the additional risk of ether, provided it is ether and the right anesthetist.

Remote anesthesia dangers are comparatively rare, such as pneumonia, kidney complication, etc. The percentage is so small as to be almost disregarded, but must always be recognized as a possibility. There is a class of disturbances attributed to this operation, I think greatly overestimated, namely, those of infection following the operation. One case of scarlet fever has been noted. This was simply an accidental infection due to exposure. Another of tuberculosis. Here there was undoubtedly a pre-existing focus which lighted up. Such things cannot be avoided, being purely accidental and liable to follow any operation. I am convinced, however, that there is less danger when the tonsil is thoroughly removed than when portions are left.

If I were given time I should like to say something of the technique and to show that the exactness, care and attention to details make it strictly a proper surgical procedure. Suffice it to say that whether we use knives, scissors, blunt dissectors or the finger, the ultimate object is the same: the complete removal of the diseased tissue and the essentials to success the same, careful exact work and a clean, straightforward surgical technic. My method is no better than that of a hundred others, and it is not necessary to flood the journals with innumerable articles to prove that my way is right and yours wrong. Nor is it necessary to add to an already too elaborate armamentarium, by changing the catch of a snare or the curve of a knife and calling it by our own names.

In conclusion, I wish to state my firm belief that a thorough and complete operation has become necessitated by our increasing knowledge of the pathological role of the diseased tonsil. That this so-called radical operation is most distinctly the method of election of most throat surgeons in America, because it gives results which no other method gives, and because it is perfectly adaptable to all tonsils, the big as well as the little ones; because it is simple, sure and as safe as any other when the technic is mastered. There is really less danger of hemorrhage than by any other method and the only additional danger is that of anesthesia, which is exceedingly small if we use ether and a proper anesthetist. By a thorough and complete removal we really run no greater risk than otherwise, and we get definite and permanent results. It is not, therefore, radical in the sense of being extreme or unnecessarily severe, but it is radical only in that it is thorough and complete, no more radical than any other operation in surgery which aims at a complete removal of diseased tissue when its influence upon the animal economy demands it.

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## THE PATHOLOGICAL HISTOLOGY OF THE TONSIL.

By HILL HASTINGS, M. D., Los Angeles.

The basis of this paper is the study of some tonsils removed at the Children's Hospital from patients from my clinic at the Los Angeles College of Medicine of the University of California. I have reviewed also some of the recent literature on this subject, and later it might be of interest to briefly mention some of the points brought out by various writers.

During the past eight years I have shared in the active warfare against the tonsil. Until the last two years I rarely looked on the inside of the tonsil. I make this confession the more readily because I believe it is a fault common to most of us. We have too often been throwing the tonsils into the waste bucket or else uselessly bottling them up, as one does prize peaches of unusual size. We should remember that naked eye examination is rated almost as high as microscopic examination in the study of other organs, as for instance, the kidney. I have made it a rule of late to have a sharp knife ready with my tonsil instruments and at the end of the operation to spend a few minutes in sectioning the tonsil.

For the microscopic examination I am indebted to the instruction and guidance of Dr. Stanley Black, of the Pathological Department, and to the assistance of Miss Roberts, of the present senior class.

The minute anatomy of the tonsil, as commonly found, is about as follows: The tonsil is an ovoid mass of adenoid tissue covered on its free surface by stratified epithelium and elsewhere enveloped by a fibrous capsule. Its free surface shows the mouths of numerous crypts, about 12 to 20 in number, most prominent in the upper one-half of the tonsil. The crypts extend irregularly deep into the tonsil tissue, many of them down to the capsule. The tonsil tissue proper consists of numerous small ovoid masses of cells, called "follicles." Each separate mass or

"follicle" has its individual capsule of delicate fibres, enclosing a ring of lymphoid cells arranged often with precise regularity in concentric rows. The lymphoid cells constituting the follicles are closely massed together without order. They are small cells with large nuclei. Many of the lymphoid cells, especially in the center of the follicle, show decided mitotic changes. There are besides, a few scattered polynuclear cells, and plasma cells.

The follicles are closely held together by a delicate connective tissue reticulium, apparently offshoots of the large fibrous septa, irregularly projecting from the fibrous capsule. There are small arteries and veins and lymph vessels. The lymph vessels are of course efferent. Except that the tonsil has no afferent lymph vessel, it is similar to an ordinary lymphatic node. The stratified epithelium of the free surface becomes thin as it dips into the crypts at the deeper portion of which it is found to be one cell thick without at places showing any basement membrane. The surface epithelium shows between its cells, here and there, polynuclear cells and lymphoid cells. Many bacteria are found in the crypts but none in the tonsil tissue proper.

We have found certain naked eye appearances worth noting. As a rule the tail or lower one-third of the tonsil is fairly firm and yellowish-white in color; the upper two-thirds or one-half softer; or here and there irregularly soft or fibrously firm, with large crypts. When the whole tonsil was found fairly firm, yellowish-white and with no purplish red softening around the crypts, the tonsil was considered normal, or at least a normal hyperplasia. The soft, purplish-red or irregularly fibrous tonsils always showed a chronic inflammatory change when examined under the microscope. In the soft, purplish-red upper one-half of the tonsil was often seen a small tumor projecting from the mouth of the crypt. This was seen in large, chronically inflamed tonsils and was found to be a prolapse of tonsil tissue. In a few tonsils were found what were at first taken to be small abscesses. In one case was seen a thick-walled sac near the capsule, about the size of a small pea, full of creamy odorless fluid. No T. B. were found in the section, and section failed to show any giant cells, and it was finally concluded to be an obstructed crypt. There were no enlarged glands in the neck in this case. Similar sacs were found in several other cases, situated near the surface. The tonsil in each case was moderately large, submerged and purplish-red in color, and there were again no enlarged glands in the neck. In another case, a child of six, without any marked inflammatory signs other than purplish-red upper one-half and with no enlarged glands in the neck, the tonsil section showed in the crypts masses made of fine net work of threads, which Dr. Black thought resembled actinomycosis.

In many tonsils, as commonly noted, the crypts were found to contain cheesy material, often of foul odor.

Tonsils from sixteen cases were examined microscopically. The microscopical examination of many of these tonsils proved interesting. In no case were bacteria found within the tonsil tissue proper. Not only were no tubercle bacilli found, but also in no case were there any signs of giant-cell formation. There were, however, in nearly every case well-marked signs of chronic inflammation, especially marked in the upper one-half, or head of the tonsil, often with extensive fibrosis and new blood vessel formation. *It was noteworthy that these signs of chronic inflammation were found in tonsils of patients who gave no symptoms of chronic inflammation; the operation being indicated because of the size of the tonsils and because of obstructive adenoid.*

One case may be cited as fairly typical: Edna P——, aged 11 years, operated November 12, 1909. Right tonsil large, firm, partially covered by thick plica tonsilaris; crypts are small, not dilated; sections show firm yellowish-white appearance. Macroscopic diagnosis, "simple hyperplasia." Left tonsil, submerged, covered by thick plica; large crypts dilated, containing some cheesy material; sections show purplish-red softened areas. A small tumor projects fom one crypt, likely a prolapse of soft tonsil tissue. Macroscopic diagnosis, "Chronic Tonsillitis." Adenoid, a large, lobulated, yellowish-white mass. The notes of the microscopic examination of the left tonsil are: "Surface epithelium is thickened, with slight infiltration of polynuclear cells; throughout the tonsil are extensive collections of fibrous tissue; in places are bands of c. t.; elsewhere diffuse fibrosis; some scattered leucocytes, with here and there dense clumps of leucocytes near the crypts. The follicles in general are small; many of the follicles apparently partially destroyed by the fibrosis. Blood vessels are numerous. In many crypts are found lymphoid cells, some polynuclear cells, and a considerable number of cells with darkly stained irregular nuclei with a considerable amount of cytoplasm taking a light pink Eosin stain (probably desquamated epithelial cells). The noteworthy sign is the extensive formation of new connective tissue." (Dr. Black).

In conclusion, this study of the pathological histology of the tonsils is not sufficiently extended to warrant any opinions as to when the tonsil is sufficiently diseased to require removal; or as to whether the tonsil is ever a useful organ. It might be of interest, however, to briefly review some of the opinions of certain investigators.

1st. As to when the tonsil is diseased. Jonathan Wright states in substance that comparative biology teaches that a pathological change does not necessarily mean a destruction of usefulness of an organ. On the contrary, it is but a response to changed surroundings, resulting in a necessary alteration. He mentions the fact noted by many observers that the black and red races of the tropics have a markedly lower proportion of children with large tonsils and seems to believe there is a significant coincidence between the tendency to enlargement of the tonsils and the natural immunity of civilized man to infectious diseases.

2nd. Is the tonsil often the door or entrance for tubercle bacilli and other bacteria?

Much has been written on both sides of this question. Jonathan Wright[1] in examining tonsillar sections from 125 patients failed to find any evidence in a single section of tubercle formation. These patients were likely children otherwise heal-

thy, except for enlarged tonsils and adenoid. The same writer states "that although dust or inanimate matter readily passes through the tonsillar epithelium, bacteria do not so readily pass."

Goodale [2] states, "bacteria are normally present in the crypts, but are not usually demonstrable in the tonsillar tissue proper. The supposition appears possible that bacteria may be continually making their way into the tonsillar tissue but at the moment of entering encounter conditions which terminate their existence."

Rosenheim [3] quotes Goerke's opinion that "tonsils owe their protective function not only to the mechanical influence of the constant strain of leucocytes toward the surface, but to two other factors, namely, the bactericidal action of the lymph and that of the products set free by the breaking down of the lymphocytes."

On the other side of the question, Wood [4] concludes from certain experiments that "it is scarcely possible for a great quantity of immune bodies to accumulate in the tonsil, that the larger amount of such material enters the general circulation. In 136 cases of pulmonary tuberculosis Wood found that the tonsils were involved 94 times,—that is 69%." The same author recently examined tonsils of 37 cases of tuberculosis of the lungs and found typical tubercle signs in all but 3 cases. He concludes,—"So far it seems practically proved that for the tuberculous germ at least the tonsil is many more times susceptible than other portions of the throat. Further, that if one organism passes readily into the tonsillar tissue, it is probable other organisms may do the same." We must remember, however, that these tonsils were removed from patients who died from tuberculosis. It is, I think, fair to assume that these were secondary infections in patients whose resistance to the tubercle bacillus was practically destroyed.

Aside from the experimental opinions on either side of this question, one must reckon with the vast amount of clinical records and clinical opinions. Innumerable case-records definitely point to the tonsil as the original point of infection in tuberculosis of the glands of the neck; also as the initial point of infection, in many cases of acute articular rheumatism, in many cases of acute bacteremia and in many cases of acute endocarditis. Furthermore, clinicians have yet to find that removal of the tonsils has caused any disturbance of health, or in any way decreased the body resistance to infectious diseases.

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**Discussion.**

Dr. Langley Porter, San Francisco: I would like to ask Dr. Houston what has been his experience with enucleation by the finger, which I have seen often and which seems to be a complete operation. Also I would like to know whether or not any of the gentlemen present consider it a better procedure in separation of the tonsil from the stump to use the guillotine instead of the snare, and if hemorrhage is not most often due to injury of the internal surface of the pillar, and if a retractor for the posterior pillar is not a most useful instrument.

Dr. W. E. Lilley, Merced: I have been very much interested in these papers. In my cases the results of tonsillotomy have been indifferent; once in a while they are good, sometimes there is no improvement. Some of my cases I have sent to specialists in San Francisco, the results have not always been good ones and it is a matter of surprise to me to learn that they are still doing tonsillotomy. Recently I have been doing tonsillectomy and enucleating by the finger down to the pedicle and then using the snare. I give anesthetic, take plenty of time and it does not seem to be such a difficult operation.

Dr. Cullen F. Welty, San Francisco: I am of the opinion that the whole group of infectious diseases enter by way of the lymphoid ring. This was called to my attention some five years ago by an observation made at the City and County Hospital. In an epidemic of diphtheria among the nurses, there were 20 who had the disease, all had diseased tonsils. In all cases the membrane or soreness made its first appearance on the tonsil. There were some 20 nurses who had their tonsils removed, none of them had diphtheria. I can say with absolute certainty that diseased tonsils do predispose to diphtheria. Some 15 years ago it was my good fortune to observe an epidemic of measles. We could diagnose measles almost to a certainty by the appearance of the throat; besides this inflammation preceded the coryza, and at the present time it seems to me that the source of infection was at the primary source of inflammation. In scarlet fever there is always more or less throat inflammation. Probably it could be better observed on endemic or epidemic. In acute or chronic rheumatism it has been proven beyond a doubt, I have had some 12 cases, all but one free from rheumatism. I have had one case that I diagnosed as tuberculous. The others were accidentally discovered. In two of the cases it was apparently a primary process. Enlarged cervical glands are directly traceable to tonsillar infection, and should be removed if they do not disappear after tonsillar enucleation, as a large percentage of them are tubercular, which has been proven by various observers. I wish to call particular attention to people who are under weight, providing they are otherwise healthy; you can increase their weight from 10 to 30 pounds by enucleation of the tonsils; this is based upon my own observations, I have not seen it in the literature. In 99% of all my operated cases the patients have increased in weight from 5 to 30 pounds. I believe this increase in weight is due to the elimination of a gland that produces toxins or other poisons. Recently I have removed the tonsils and adenoids in 9 cases of acute otitis (few day's duration), in all cases the ears were free from pus before the tonsillar wound had covered by epithelium. In a comparatively short time this procedure will be the accepted teaching in the treatment of acute purulent

otitis. At the Oto-Laryngological Section of the American Medical Association some four years ago, I made the following statement: "That all tonsils present after 20 years of age, were necessarily diseased and as pathologic organs should be removed." At last year's meeting of the same society, Robertson of Chicago, stated the same; he failed to give me credit for making the statement first. I am still of the same opinion and believe that in a short time the tonsil question will cause the entire revolution of whole chapters of internal medicine. To substantiate this, Dr. Francis Williams, special anesthetist of the St. Francis Hospital, says that 35% of the patients that are operated on for tonsils and adenoids have an organic heart lesion. This is self-sufficient reason to begin investigations in an entirely different line. It follows as a matter of course that a complete operation is necessary if you wish to free the patient from this particular source of infection. There are many ways to do this. However, the one should be selected which combines minimum anesthesia, minimum amount of traumatism, small amount of hemorrhage at the time of operation and no hemorrhage following operation. I am still of the opinion that hemorrhage following operation is dependent upon remaining tonsillar tissue, from my own observations in 500 tonsillectomies. I have had but one case bleed after leaving the operating table; that particular case had remaining tonsillar tissue, she was 60 years of age, besides.

Dr. T. C. McCleave, Berkeley: As a general medical man I want to particularly endorse all that Dr. Porter has said. The most significant point was that a large proportion of specialists are still doing tonsillotomy. That is not right, and the general medical man knows that it is not right; and I want to say that any who may still be doing tonsillotomy must expect to lose cases which are referred by the general medical man. They must do tonsillectomy if they expect to get these patients from the general medical man. To the general practitioner I wish to say, be very careful to refer your patient to the specialist who is going to do a tonsillectomy and not a tonsillotomy, and leave your patient as badly off as before. I think much of the blame for the poor tonsil work done is due to the fact that the work is done in the office or home, and the operator does not dare to do it as thoroughly as it ought to be done; I think every patient operated for tonsillectomy should be sent to the hospital. As Dr. Houston has stated in his paper, it most certainly ought to be done under the most careful conditions as to the anesthesia, and the patient should be anesthetized by a man who is experienced in anesthesia in this class of cases.

Dr. W. H. Roberts, Pasadena: I most firmly feel that tonsillotomies should be abolished. There is a certain proportion of nose and throat specialists who still do tonsillotomy and it should not be dignified by the name of operation. The only operation should be the complete removal of the tonsils; this is the operation and need not be called radical as it is not radical. I always operate under ether and always in the upright position, as I am sure that that is perfectly safe for the patient. It is a most necessary thing for the patient to be given anesthesia by a very experienced anesthetist. In doing the finger dissection it is important that you carefully free the tonsil from the posterior pillar.

Dr. Robert D. Cohn, San Francisco: I agree fully with all that Dr. Porter has said, especially with regard to the value of the operation. The endorsement of such men as Dr. Porter is all the more important when one considers that they have the opportunity of observing the patient for a long time before and after the operation, whereas the specialist has the case under his eye often for only a very brief period. The radical tonsil operation is after all technically simple enough in the majority of cases, in fact more or less child's play. The two dangers, anesthetic and hemorrhage. Dr. Houston has analyzed and in general I concur in his conclusions. The one point which I should like to bring out, however, is this,—that the tonsil operation is only in exceptional cases done to satisfy a vital indication. In other words, it is not ordinarily a direct life-saving procedure and for that reason not analagous to the general run of major operations.

Dr. Kaspar Pischel, San Francisco: We are all indebted to Dr. Porter for his paper. When we advise enucleation of tonsils we often have to meet the opposition of not only the parents, but the family physician, too. But if the latter points out the advantages of the removal of the tonsils for the general health of the child, the parents will gladly consent. It has been stated that a large percentage of specialists in San Francisco are still practicing tonsillotomy instead of tonsillectomy. I hope the speaker is mistaken. Regarding the removal of the stump, I find that the electro-cautery snare causes decidedly less bleeding than a cold snare. I am glad that the importance of an expert anesthetist was pointed out. In grown persons I prefer to remove the tonsils under local and regional anesthesia which is perfectly satisfactory except in nervous persons.

Dr. Wm. Ellery Briggs, Sacramento: I think Dr. Cohn's remarks quite pertinent and to the point. The advice to have the tonsils removed is often given too lightly and without sufficient indications to warrant so serious an operation. There are few operations which give more marked and gratifying results than tonsillectomy in properly selected cases, but I am strongly convinced that many men at present attribute malign influence to and remove quite normal tonsils. I have given up local anesthesia in the removal of tonsils. The patient should be in a hospital and under the influence of ether. Some time ago I gave up doing the operation under cocain and adrenalin in my office. In reply to a question by one of the gentlemen present, I would say that tonsillectomies are rarely done in Germany. In my opinion they are not radical enough, but I fear that some of our countrymen are at present making a fad of a very useful operation.

Dr. J. Dennis Arnold, San Francisco: In former years we removed tonsils because they were enlarged or the seat of a disease, and consequently we satisfied ourselves by any operation that rid our patients of the redundant or diseased tissue. Having learned that a tonsil that is neither hypertrophied nor the seat of disease may yet be, and often is the cause of various systemic infectious disorders we have come to adopt a procedure which has for its purpose the complete removal of the gland. For this very sufficient reason tonsillotomy has been entirely replaced by tonsillectomy in these days. After some experience with all the numerous methods that have been advocated for ablation of the tonsil, the following appears to me to be an ideal procedure: Free the gland from its investure by the anterior and posterior pillars with one or two shallow curved incisions, and then by blunt dissection remove it with capsule intact from its bed.

## ROUTINE OBSTETRICAL DIAGNOSES.*

By ALFRED BAKER SPALDING, M. D., San Francisco.

The average general practitioner rarely makes complete ante-partum or post-partum examinations. It cannot be that he considers them valueless, for more than thirty years ago the late Paul F. Munde published a most convincing paper on the various modes and procedures by which abdominal examinations and manipulations should be conducted during pregnancy and labor and the numerous different conditions in which their employment is not only beneficial but necessary. Richardson and Chadwick of Boston, as well as Frank C. Wilson of Louisville, Kentucky; also recognized a generation ago the great value to be placed on the routine systematic examinations of pregnant and puerperal patients and wrote most clearly on this subject. But in spite of their vigorous writing and that of a host of later clinicians, so slow has been the improvement that I will venture to state that not one in fifty general practitioners to-day understands the practice or comprehends the value of these examinations. It is safe to state that, unless he has taken a rare interest in his work, he has not made complete examinations of his obstetric patients since his undergraduate days.

It is not in a spirit of criticism that these remarks are made, but rather to raise the questions, Is there any practical value in making systematic examinations of obstetrical patients before and after labor, and, if so, is not the profession negligent in so universally neglecting this work in general practice? To answer these questions in the affirmative, I shall draw not on the vast literature of the past half century, but shall review personal records made during the last few years. For some years it has been my habit to record carefully in my clinic at the University of California Hospital and in private practice all ante-partum and post-partum examinations, and as a result I have compiled nearly 1500 records. From these records I desire to present my own conclusions bearing on the subject of this paper.

The busy general practitioner feels it a burden to go carefully into the history and make the necessary physical examinations of pregnant women. So many women apparently do well without examination that he is apt to agree with the laity that such procedures are both expensive and distasteful. In regard to expense, the fault lies as much with the profession as with the laity. Poor obstetrics is paid too much (and in the end the patient usually finds this out) but good obstetrics is paid too little, and often the patient does not realize how much has been done for her by her conscientious attendant. In regard to the distaste for examination, it has not been my experience that any woman has ever raised this objection consistently after the object for such examination has been explained to her. And how bitterly does the woman complain who has met with misfortune through the neglect of these very examinations!

Patients with minor cardiac trouble often become pregnant and occasionally a more or less serious chronic endocarditis or myocarditis is unexpectedly discovered on examination. In 1100 examinations I noted 54 cases, or about 5%, with distinct cardiac murmurs. Many, it is true, were neurotic or hemic in character, but some were associated with serious valvular disease, and one case ended fatally a few weeks before the expected delivery. This patient did not realize that she had cardiac trouble. She settled her house in preparation for the expected confinement and evidently overstrained herself. She had two nights of dyspnoea, which her neighbors told her was natural, and ended suddenly in an attack of acute pulmonary edema. This case, together with others less serious, has placed a distinct value, to my mind, on the routine examination of the heart. It leads to guarding the patient more carefully during pregnancy, to easing the first stage of labor, and to shortening the second stage with forceps.

Tuberculosis of the lungs has been noted in six instances and in every case this has proven a serious complication, one patient dying of an acute exacerbation of pulmonary tuberculosis one month post-partum.

Of pelvic conditions, retroversions, infections, contracted pelvis and pelvic floor relaxations are the more common abnormalities found in examinations of early pregnancy. One becomes impressed with the frequency of retroversion in nullipara, and the wonder is that so many correct themselves as pregnancy advances. During the past month I have had to replace two impacted retroverted uteri, which were causing symptoms of impending miscarriage. One case I feel ended needlessly in miscarriage for the reason that the patient, a primipara, had not submitted earlier in her pregnancy to a vaginal examination. Knowledge of the condition also leads, in many instances, to valuable corrective treatment post partum.

Of infections, gonorrhea has been noted not infrequently in the clinic patients and has permitted of treatment throughout the pregnancy. In private work, infection from a previous abortion has been found more often than has acute gonorrhea and has at times in spite of, or perhaps in association with treatment, ended in miscarriage. In regard to pelvic measurement, I believe the educated finger is one of the safest pelvimeters we possess. Moreover, it is practically impossible to judge correctly the importance that is to be attached in the individual case to the shape and size of the pelvic bones as determined by external measurements with the usual pelvimeters. The internal pelvimeters are all more or less painful in the majority of cases and require also special training to be of any recided value. The finger is the least painful and permits of a most thorough examination. Contracted pelvis exists much more frequently in California than is generally understood. In 1500 examinations, exclusive of consultations, I have noted 76, or 7½%. The minor grades are easily overlooked and I have seen in consultation a number of primipara with even serious obstruction permitted to go into labor unconscious of their condition and unwarned of their danger. Some most unsatisfactory consulta-

* Read before the Santa Clara County Medical Society, June 15th, 1910.

tions have been with patients long in labor, the child blocked by pelvic disproportion and fetal life deliberately sacrificed because of neglected pelvic examination of pregnancy. And on the other hand, it has been my good fortune in several cases seen of early inpregnancy, to successfully deliver later, by Caesarean section or induced labor, patients who had previously lost their children at confinement.

In the primipara the condition of the pelvic floor ante partum presents to the examiner a condition that should exist post partum, while the examination of the pelvic floor of multipara often demonstrates a condition of what should be avoided. Also I believe it is possible with practice to estimate in a certain percentage of cases the individual perinei which will probably stretch safely over a child's head at delivery and those which certainly will lacerate unless treated by preliminary dilatation or incision.

The laboratory examinations, limited as a rule to an occasional test for albumin in the urine, are not satisfactory. They are certainly better than nothing, but are apt to lead to a wrong sense of security, both on the side of the patient and the attendant. All practical clinical and laboratory tests should be utilized. A blood pressure test will often give an earlier warning of toxemia than a casual examination of the urine.

Later in pregnancy the abdominal examination affords knowledge of the condition of the uterus, the position of the child, multiple pregnancy, prognosis of labor and the probable date of delivery. The round ligament which can be easily palpated affords a fair index to the development of the uterus, the position of the child can with ease and with considerable preciseness be made out in the large majority of cases. It is a relief to know that the child lies in a normal position, and if the position is found to be abnormal it can, if judged necessary, at times be corrected. The chief value, however, is, probably, to place one on guard in abnormal cases, particularly in cases of occiput posterior. The diagnosis of twins is not in itself to my mind of great value, although in my service eclampsis has occurred with one twin case and more or less severe toxemia has been present in all.

So many patients give rise to worry on account of an apparent moderate pelvic and fetal disproportion and later deliver themselves normally or possibly precipitately, that about all that can be done is to classify these cases of moderate pelvic contraction into those that probably will have normal labors and those that will possibly have trouble, and to be prepared to perform any major or minor operation that might be indicated as labor progresses. It is a great satisfaction to know that the patient presents no abnormality and that the prospects are favorable for a successful labor, and it is of the utmost value to know early the presence of marked abnormalities, which can be done only when one makes a practice of examining his obstetrical patients systematically, so that due consideration, and if necessary consultation, can be had before an exhausting labor forbids a conservative surgical treatment of the case. It is generally known that the size of the abdomen relates to the probable date of the labor, although to my knowledge no one has yet devised a practical working rule based on this fact. After measuring carefully a large number of pregnant women I have come to rely on the fact that, previous to the time of settling, 4 added to the distance in centimeters from the upper border of the symphysis to the top of the fundus coincides in a large number of normal cases to the week of the pregnancy. From this the estimated date of delivery in the normal case corresponds closely to that of Nagle's rule. This measurement to be most accurate must be taken after the fundus is above the umbilicus and before the head has settled into the pelvic cavity. These measurements I consider of great value in cases supposedly overdue according to Nagle's rule, particularly when associated with a slight pelvic contraction, for so long as the measurement is not excessive it is safe to allow nature to manage the case, but in the face of large abdominal measurements the delay in the induction of labor is a most serious procedure.

The post-partum examination, made six weeks after labor when involution is fairly complete, is seemingly almost as much neglected as is the ante-partum examination. Much needless suffering might be prevented and many miserable lives made livable were more post-partum examinations made. The usual examination on the ninth or tenth day is practically valueless except as a preliminary to pelvic treatment. As an act in the discharge of a patient it is absolutely worthless. Ten days after labor the uterus may be found retroverted and some good may be obtained by procedures instituted to correct its position or hasten its involution, but it is not until much later that all the difficulties of the pelvis can be made out. If every obstetrical patient were examined digitally and with the speculum six weeks post partum a large number of retroversions would be discovered and corrected, some patients with unhealed lacerations of the cervix would be saved the discomforts of a heavy subinvoluted uterus with the danger later of a possible malignancy, and a very large number of patients would be informed of serious pelvic floor relaxations and encouraged to submit early to proper repair, to the end that their general good health would be maintained while prolapse with cystocele and rectocele would be prevented.

The pelvic floor in about one-half of all primiparae is lacerated at delivery, no matter what procedure is instituted to prevent it. Often it is not a severe laceration and may heal kindly without stitches, but there will always remain a relaxation in those patients in whom the median raphe, the deep or superficial fascia or levator ani muscles have separated. Of the patients improperly repaired in the usual way after labor, fully 40% remain uncured, for the reason that the operator does not repair the actual damage. With multipara only about 10% lacerate at childbirth, for the reason that probably more than half the remaining 90% are already so badly torn that further laceration is unnecessary. The 10% which lacerates represents usually the well-repaired lacerated primiparae.

In private and hospital work, 36% of primipara

and 9% of multipara have been repaired. It is a curious corollary that in the out clinic department, where patients are mostly confined by students, only 8% of primipara and 8% of multipara were judged to need a perineorrhaphy. The inference would seem to be that the less experience one has the better are the results, but the fact is that with an increased experience in examining the pelvic floor post partum, the more one will find to repair.

This paper is a plea to give the often maltreated obstetrical patient the same study and consideration that is shown the more interesting medical and surgical patient. Obstetrics calls for much that is unrewarded and credits much that is undeserved, but in the long run it pays to consider most seriously the young primipara and to give to her and to her prospective baby the careful attention and conscientious practice that can only be obtained by a universal routine systematic ante partum and post partum examination.

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## RAILWAY SURGEON

### THE EIGHTH ANNUAL MEETING OF THE PACIFIC ASSOCIATION OF RAILWAY SURGEONS, SAN FRANCISCO, CAL., AUGUST 26TH AND 27TH, 1910.

Minutes.

Meeting called to order at 2:30 p. m., President Kurtz in the chair.

Address of the President: "Tendon Transplantation."

It was moved and seconded that the reading of the minutes be dispensed with. Carried.

Following applications for membership were read:

G. J. Bergener, San Francisco; G. W. Stout, Ukiah; A. M. Thomson, Sonoma; A. R. Graham, Tomales; F. R. Horel, Arcata; E. L. Cottrell, Scotia; F. E. Sohler, Geyersville; E. J. Ruddock, Guerneville; C. C. Cottrell, Scotia; S. L. Reu, Ukiah; U. V. Stone, Healdsburg; F. E. Raynes, Duncans Mills; S. P. Cavanagh, Pt. Reyes; R. B. Williams, Sausalito; G. S. Loveren, Fortuna; H. S. Gorrage, Petaluma; J. W. Jesse, Santa Rosa; S. Mizell, Toledo, Mex.; W. P. Murray, Caliente, Nev.; C. E. Standler, Imperial; H. W. Gibbons, San Francisco; H. T. Rooney, Colfax; C. L. Howell, San Francisco; L. D. Green, San Francisco; P. J. Mangan, Winnemucca, Nev.; H. Abrahm, San Francisco; W. L. Blodgett, Willits.

It was moved and seconded that the Secretary cast the ballot. Secretary cast ballot and the applicants were duly elected to membership.

Scientific program was proceeded with according to program.

The Secretary read invitation from the Los Angeles County Medical Society, inviting us to hold our 1911 meeting at Los Angeles.

Motion was made and seconded that the ninth annual meeting be held in Los Angeles on the day preceding the opening of the meeting of the American Medical Association. Carried.

### ELECTION OF OFFICERS.

Nominations for President. Dr. Taylor nominated Dr. O. D. Hamlin, Oakland; nomination seconded. It was moved and seconded that the nominations be closed and the Secretary cast ballot. So ordered.

Secretary cast the ballot and Dr. Hamlin was duly elected President.

Nominations for First Vice-President. Dr. McCleave nominated Dr. W. I. Terry, San Francisco; nomination seconded. It was moved and seconded that nominations be closed and the Secretary cast the ballot. So ordered.

Secretary cast the ballot and Dr. Terry was duly elected First Vice-President.

Nominations for Second Vice-President. Dr. Coffey nominated R. T. Legge, McCloud; nomination seconded. It was moved and seconded that nominations be closed and the Secretary cast the ballot. So ordered.

Secretary cast the ballot and Dr. Legge was duly elected Second Vice-President.

Nominations for Treasurer. Dr. Huntington nominated Dr. E. M. Keys, incumbent; nomination seconded. Moved and seconded that nominations be closed and the Secretary cast the ballot. So ordered.

Nominations for Secretary. Dr. Reardan nominated Dr. George R. Carson, incumbent; nomination seconded. Moved and seconded that nominations be closed and the Secretary cast the ballot. So ordered.

Nominations for Executive Board—one vacancy to succeed Dr. Morton, whose term expires. Dr. McCleave nominated Dr. S. E. Pinniger, Tracy; nomination seconded. Moved and seconded that the Secretary cast the ballot. So ordered.

Motion was duly made and seconded that proceedings be published in the CALIFORNIA STATE JOURNAL OF MEDICINE and that the Secretary confer with the editor of the JOURNAL, arranging with him that copies of transactions be sent to all members who do not now receive the JOURNAL, at the expense of the Association.

A vote of thanks was tendered the retiring President.

Adjourned to meet in Los Angeles in 1911.

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### PRESIDENT'S ADDRESS.
### TENDON TRANSPLANTATION.*

By CARL KURTZ, M. D., Los Angeles.

I take this opportunity to express to you my sincere appreciation of the honor you conferred upon me at your last annual meeting. Coming unexpectedly as it did I feel more than complimented that you should have chosen me your presiding officer. I desire also to express my thanks to our proficient Secretary for his untiring efforts in arranging this excellent program.

I have attended the meetings of this organization for a number of years and have been exceedingly

* Read before the Eighth Annual Meeting of the Pacific Association of Railway Surgeons, August 26th and 27th, 1910.

interested in the papers and in the discussions by its members.

It has been my pleasure to see this Association grow from a small group of men into a strong organization whose actions and deliberations can do much toward advancing the science of medicine and surgery in this state. As the representative body of Railway Surgeons of the Pacific Coast it will no doubt continue to increase in membership and in influence.

The subject which I have chosen for my address is one in which I have been interested for a number of years.

Tendon transplantation is one of the most satisfactory procedures in operative surgery. I know of no operation the results of which are more gratifying to the patient or to the surgeon. When you consider that the destruction of certain groups of muscles and tendons give rise to conditions which may cripple the individual for life, you must realize the importance of an operation which will correct deformity and restore functional power to the afflicted parts.

Although Nicoladoni has been given the credit of having first performed this operation in 1881 we find that a tendon transference had been made by Tillaux as early as 1869 and by Duplay in 1876. The early career of the operation was attended by many failures, and it is only within the last decade that the technique has been perfected and the operation brought into prominence by such skilled surgeons as Codivilla, Goldthwait, Hoffa, Lange, Vulpius and others. By tendon transplantation we understand the transference of the proximal end or portion of a healthy tendon to the distal extremity of a paralyzed muscle thereby transferring the muscular power to the affected area.

The indication for the operation is a partial or complete paralysis of a muscle or group of muscles, whose function can be restored by the power transmitted from healthy muscles lying in their immediate vicinity.

Peripheral paralysis the result of trauma is the most amenable to treatment.

Divided tendons, the result of stab wounds, gunshot wounds, or other injuries, frequently fail to unite by primary suture. The tendons retract, the muscles atrophy from non-use and fail to distribute their functional power. It is often impossible to locate the proximal extremities of these tendons, which are frequently imbedded in adhesions but the distal ends can be found and grafted on to some neighboring healthy muscle, again restoring the power to the paralyzed part.

The flexor muscles of the hand or foot may be destroyed by phlegmonous abscess. The destruction of the flexor sublimis or profundis digitorum will cripple the hand and render it useless for the purpose of manual labor.

Injuries of the peripheral nerves frequently result in a permanent paralysis over the area of their distribution. In recent injuries of the nerves we should endeavor to bring the ends of the nerve together with suture. This is often impossible and when it is possible the nerve frequently fails to unite, destroying the functional power of the muscles which it supplies. The radial, the ulnar, the median or the musculo-spiral may be severed by a stab wound or gunshot wound or they may be torn by complicated fractures making repair impossible and resulting in the characteristic distortions. Perhaps the most gratifying results are obtained in those cases of paralytic club foot, the result of anterior poliomyelitis. I say gratifying, for in many of those unfortunate cripples the functional activity of the paralyzed muscles can be sufficiently restored to enable them to use their extremities without the aid of crutches or other apparatus.

In order to be successful in our operative work we must be familiar with the actions and functions of the various muscles. We must determine absolutely by electrical stimulation or otherwise, which muscles are paralyzed and which muscles have wholly or partially retained their functional power.

As regards the preparation of the field of operation, I want to emphasize the fact that absolute asepsis is most important. As much care should be taken in opening the tendon sheaths as is taken in opening the peritoneal cavity. Suppuration will prevent union of the tendons and destroy the usefulness of the plastic.

Long continued paralysis of a muscle or group of muscles is always attended by more or less distortion due to an overbalancing of the healthy muscles at the expense of the weaker ones. The object of the operation, therefore, is not only to supply functional power to the paralyzed muscles, but to correct the deformity. Correction of the deformity should always precede tendon transplantation. In the severe cases tenatomy and redressment should be made at least one month prior to the operation.

When should we operate? Not until the stationary stage is reached. According to Vulpius not earlier than six to nine months after the onset of the disease and then only when all efforts to restore the functional power to the paralytic area with massage and electricity have failed. As regards the age, there is no limit. I have operated a case of paralytic club feet in a woman 52 years of age and have had a fairly good result.

The best results are obtained in children past the age of four.

In performing a tendon transference, it is always best when possible to select muscles of the same group and running in the same direction. However, there are times when antagonistic muscles can be used to good advantage.

The incision should be made directly over and parallel to the affected tendons. Paralyzed muscles are easily recognized by their atrophy and dull gray color. After opening the tendon sheath, the tendon is divided or split near its insertion and transferred to the paralytic one, to which it is attached with fine silk sutures. Various combinations of tendon transference are recommended. The simplest method is a lateral anastamosis between two neighboring tendons.

A healthy muscle of little functional use can be

sacrificed to supply important muscles whose function has been destroyed. For example the replacement of the tibialis anticus by the extensor hallucis.

When the power is to be supplied from a muscle of great importance then it is best to take a portion of it and graft it on to the paralyzed one, or, the paralytic tendon can be divided and attached to the healthy muscle.

Should a muscle still retain some of its function then it would be better to take a flap from the paralytic as well as the healthy tendon and stitch them together.

Owing to many failures that were met with in the treatment of paralytic club foot Lange suggested that the extremity of the healthy tendon be attached to the periosteum in order to give it a firmer fixation. Should the tendon prove to be too short it can be lengthened with strands of silk. These silk strands are in time imbedded in fibrous tissue, thus practically forming a new tendon. This same method can be employed in bridging over a defect or filling in a space between the retracted ends of divided tendons. After the transplantation the tendon sheaths are carefully closed with fine silk and the operation completed in the usual manner. The limb is placed in an overcorrected position and immobilized with a plaster of paris dressing for a period of from four to eight weeks. The after treatment is very important. It consists in supporting the limb and in improving its nourishment with hot baths, massage and electricity. This should be kept up for at least six months. From the character of the distortion we should determine which muscles are paralyzed and from which source the muscular power is to be derived.

To illustrate: When the anterior tibial nerve is injured we get paralysis of the tibialis anticus, the ext. longus digitorum and the ext. proprius pollicis muscles. To correct the condition we should divide the tendon of the peroneus longus, sew the stump to the peroneus brevis and attach the proximal end of the tendon to the tibialis anticus. A flap is now taken out of the tendo Achillis passed under the peroneus and stitched to the ext. longus digitorum. The ext. proprius pollicis is attached to the tibialis anticus.

The musculo spiral nerve may be irreparably torn in fractures of the humerus causing paralysis over the area of its distribution. The hand is pronated, and the hand and fingers flexed. The condition is commonly known as wrist drop. The crippled hand can be restored in the following manner: Shorten the ext. carpi ulnaris. Separate the flexor carpi ulnaris from the ospisiform, pass it under the tendon of the ext. carpi ulnaris and attach it to the ext. communis digitorum above the bifurcation. The results is these cases is often wonderful.

Tendon transplantation is the ideal operation for paralytic club foot. The method of operating varies according to the number of muscles involved and the amount of functional power that can be transferred. The greater the number of muscles paralyzed the more complicated will be the operation. The character and the degree of deformity is dependent entirely upon the location of the paralytic muscles and the degree of muscular power that has been destroyed.

When there is a partial or complete paralysis of the anterior group of muscles, the foot drops, the unopposed tendo Achillis contracts and the foot assumes a position of pes. equinus. Should the adductors be involved then the foot is converted into a pes. equino varus by the action of the adductors. When the posterior group of muscles are paralyzed the opposing anterior group will convert the foot into a pes. calcaneus.

Pes. valgus is the result of a paralysis of the tibialis anticus.

Time will not permit me to enter into a detailed description of the various transplantations recommended for talipes. Suffice it to say that the muscles whose functions are partly or wholly destroyed must be replaced by healthy muscles. It remains, therefore, for the surgeon to select such muscles which in his judgment can convey the most power to the paralytic group and correct the deformity.

In conclusion I wish to report a number of cases which were operated at the German Hospital by Dr. Joseph Kurtz and myself. Our results have been most satisfactory.

Case 1. Fred H., age 13. Severe laceration of the anterior surface of the arm just above the wrist. The wound was treated by a neighboring physician but he evidently forgot to suture the divided tendons. Some time after the injury it was noticed that the boy had a paralysis of the flexor muscles of the hand. A long incision was made parallel to the palmaris longus. I found that the flexor carpi radialis, the palmaris longus and the flexor sublimis digitorum had been divided. The proximal ends of the flexor carpi radialis and palmaris longus were located and stitched to their distal extremities. The proximal ends of the flexor sublimis digitorum could not be found. The distal ends were attached to the flexor carpi radialis to the flexor carpi ulnaris and to the flexor profundis digitorum. The patient made a good recovery, he has a useful hand to-day.

Case 2. William S., telegraph operator. Injury of the right middle finger resulting in a contracted cicatrix with acute flexion and anchylosis of the middle joint which greatly interfered with his work. The flexor profundis digitorum was divided and its proximal end attached to the lumbricales. There was not enough skin left to cover the wound leaving the tendons bare. This was covered by a Thiersch implantation. Result excellent.

Case 3. Nora H., age 22. Severe pes. equino valgus, the result of anterior poliomyelitis in the second year. June 2, 1906, tendo Achillis divided, the foot redressed and placed in over-corrected position and immobilized with plaster of paris dressing.

June 29, peroneus longus and one-half tendo Achillis attracted to tibialis posticus. Ext. hallucis and one-half of the extensor longus digitorum grafted upon the tibialis anticus. Plaster of paris dressing removed one month later. Result good. At present time the foot is normal in all its movements.

Case 4. Mrs. A., age 52. Paralytic equino varus in both feet. December 2, 1907, tendo Achillis divided, feet forcibly corrected with much difficulty and immobilized with plaster of paris dressing for one month.

Operation tendo Achillis split and grafted on to the peroneus longus and brevis. The ext. hallucis divided and its proximal extremity attached to the

extensor longus digitorum. The woman who had used crutches all her life now walks upon the soles of both feet without the aid of aparatus. Her gait is not graceful for she has an anchylosis in both tarsi.

Case 5. Henry A., age 7. Paralytic equino varus, result of anterior poliomyelitis in the second year. June 11, 1908, division of tendo Achillis, redressment and fixation in plaster of paris for one month. Ext. hallucis and one-half of tibialis anticus attached to the shortened ext. longus digitorum. One-half of tendo Achillis grafted on peroneus longus and brevis. Plaster of paris dressing removed in four weeks; result good.

Case 6. Miss W., age 22. Paralytic equino varus. Tenotomy, forcible correction and immobilization with plaster of paris dressing for one month. Operation ext. hallucis transplanted on to the extensor longus digitorum. Tibialis anticus split and one-half grafted in the ext. longus digitorum. Stump of ext. hallucis attached to tibialis anticus. Tendo Achillis split and attached to peroneus longus and brevis. Excellent result.

Case 7. Fred Z, age 15. Paralytic equino varus. Varus very marked. Wedge removed from the middle of the tarsus. Tendo Achillis lengthened by oblique cut. One-half of tendo Achillis grafted on the tendons of the peronei. Result good.

Case 8. Age 7, paralytic equino varus. Tenotomy, redressment, and fixiation with plaster of paris for one month. Operation, one-half of tendo Achillis transplanted into the tendons of the peronei. Result good.

## STRANGULATED HERNIA.*

By A. MILES TAYLOR, M. D., San Francisco.

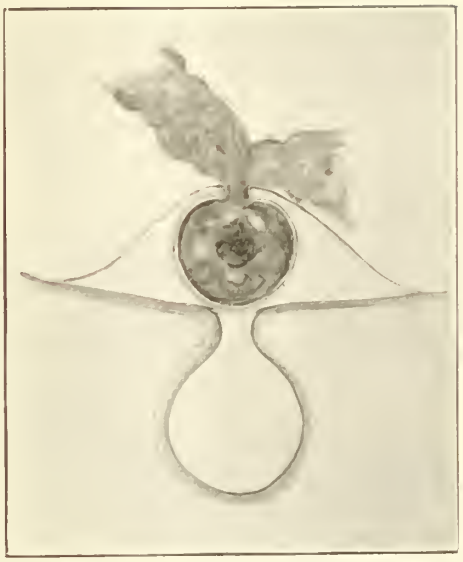
I have selected for my subject, Strangulated Hernia, its frequency among railroad men and the necessity of early operation in all forms of hernia. My object in bringing this most common subject before you to-day is to awake interest in one of the most neglected of all conditions demanding immediate surgical intervention. If herniae, both large and small, were diagnosed early and corrected through an operation, we would not be called upon so frequently at most any hour of the day or night to deal with this, one of the most grave conditions in surgery and one that few doctors in general practice have not had experience with.

Herniae of the abdominal viscera may be internal or external. Internal—where the displacement is into another cavity through some opening in the mesentery or omentum or adhesion. External—protrusion through the abdominal wall of the sac and its contents. The predisposing causes are imperfect closure of the umbilicus and inguinal and crural canals, weakened state of the mesentery and accumulations of fat in the peritoneum. The most frequent exciting cause is strain.

We have various forms of hernia, namely, inguinal, direct, and oblique; femoral, umbilical, obturator, sciatic, lumbar, bladder, retroperitoneal, diaphragmatic, epigastric, etc., but the one we meet most frequently is the oblique inguinal and the principal one I have taken up.

Before going any further, I wish to briefly refresh your memory with regard to the anatomy of the part, and the structures we must deal with.

* Read at the Eighth Annual Meeting of the Pacific Association of Railway Surgeons, San Francisco, Aug., 1910.



Strangulated direct inguinal hernia, reduced en masse.

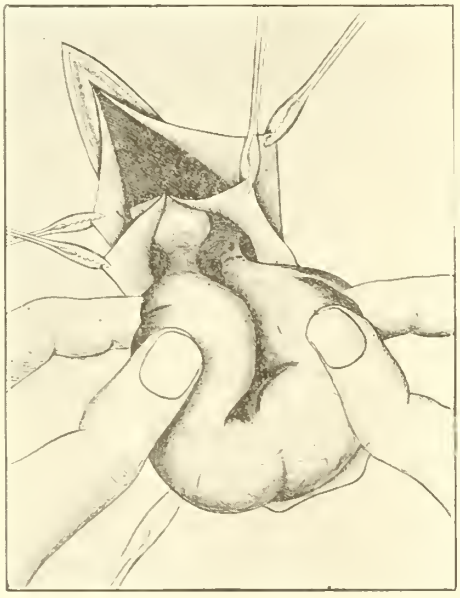
The first covering is the skin, the fascia with fat, aponeurosis of the external oblique muscle, which is attached to the symphysis pubis by one portion and reflected by the other from the anterior superior spine of the ilium to the spine of the os pubis, forming Poupart's ligament, being reinforced at the point of the external ring by the intercolumner fibres. Underneath this, over the cord is the cremaster muscle. Below this fascia we find the spermatic cord consisting of the vas deferens, arteries, veins, nerves and lymphatic vessels. On the inner side we find the conjoined tendon formed by the internal oblique and transversalis aponeurosis and the peritoneum. The deep epigastric artery runs upward and inward from the external iliac to the center of the rectus abdominus muscle, passing vertically between the two rings lying between the transversalis fascia and the peritoneum, and must be avoided in operating. The more common forms of hernia descend externally to this vessel.

In giving these parts a few moments of study we can readily see how the different forms of hernia are formed and with what ease this condition can be corrected surgically. One can easily understand how in days of preaseptic surgery this condition was neglected, but under our present method of aseptic surgery there is no excuse for neglect. We must lay aside those old notions our predecessors had and methods they employed, namely taxis, truss, etc., sometimes reducing the strangulated portion en masse, and the poor patient dying of the gangrenous obstructed or ruptured bowel.

I wish to state before I go any further that this is an emergency condition and the only appropriate treatment is a surgical one. Our chief source of danger is septic absorption, and in order to avoid this the condition should be properly dealt with before the incarcerated bowel has ceased to be viable. Very frequently the patient is not brought to us until after repeated efforts at reduction; a long wait with his powers of resistance almost gone, not due to the gangrenous condition, but to sepsis.

As a rule the diagnosis is not a difficult one, for the patient gives a history of having hernia which has suddenly become painful and irreducible, bowels refusing to move, often nausea and vomiting ensuing and other signs of circulatory depression, all symptoms pointing to an intestinal obstruction. The expression of the face is drawn and pinched, with sallow look and sunken eyes, and at times is a clammy sweat. The symptoms vary according to the amount and duration of obstruction. It is hardly necessary to differentiate between an inflamed and an obstructed irreducible hernia for both require immediate surgical intervention.

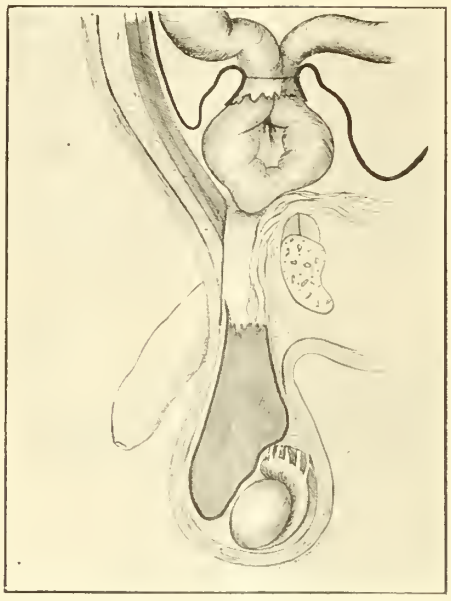
Reporting 200 cases upon which I have operated I wish to call attention to the death of three and the condition they were in when first seen by me.



Showing constructed bowel.

One was a man 39 years of age who had eaten canned tomatoes three days previously; he had what was supposed to be ptomaine poisoning and was treated with the usual cathartics given freely but with no result. Bowels did not move and patient grew worse. On the evening of the third day he entered the hospital, and upon examination I found the following condition: Temperature 97, pulse 150, stercoraceous vomiting, clammy sweat, tympanites, sunken eyes, greenish hue of skin, pinched countenance and at this time no pain. Yet the pain in the early part of the illness had been severe, especially at the point of hernia, in fact more or less all over the abdomen. The hernia which was an oblique inguinal had existed for some months, had been small and reducible; it was now a large irreducible mass. The skin and tissues about the seat of hernia were red and swollen. Upon opening the sac the constriction of the bowel was so high that a hernio-laparotomy was necessary in order to reach the constricted band. A greater portion of the bowel was paralyzed and the mesenteric veins studded with thrombi. The patient only lived a few hours after the operation.

The second case was that of a woman about 44 years of age, and almost similar in symptoms to the above, except she had not eaten canned food. This patient had suffered with an oblique inguinal hernia for years but for the past four days, previous to coming under my care, complained of pain at seat of hernia. The family physician was called in and

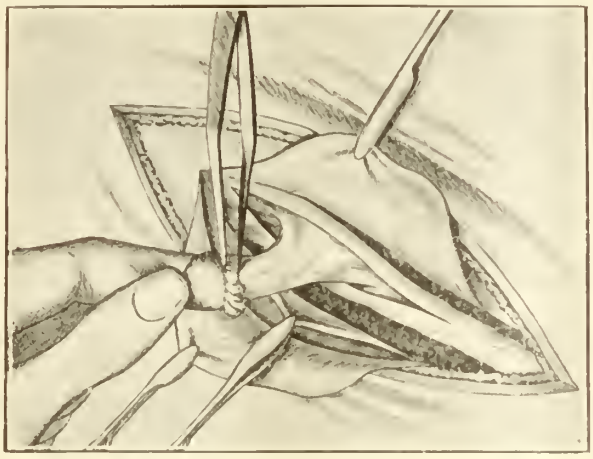


Strangulated oblique inguinal hernia, false reduction through circular rupture of sac.

recognized the strangulation, applied ice and gave cathartics with no result. Upon opening the sac and extending incision up several inches the bowel was found constricted at seat of hernia, also about eight inches above by a band. The bowel between these constrictions was gangrenous and this portion was removed. However the remaining bowel failed to regain its functions and the patient died on the following day.

The third case was that of a man 73 years of age weighing 260 pounds who had had a double inguinal hernia for twenty years. I saw this case fifty-two hours after strangulation on both sides. When I was called I was told by the attending physician that it was a strangulated inguinal hernia of the right side which he had tried to reduce and failed. Upon examination I found a strangulation of both sides. The hernia of the right side was 26 inches in circumference and extended 12 inches from the external ring to the bottom of the scrotum. That of the left side was about one-third the size of the right. The patient complained of severe pain in the left side and had suffered with severe pain in the right side which had ceased about twelve hours before. The temperature was 104, pulse 150, irregular and intermittent, respiration labored; all the symptoms pointed to a high degree of sepsis. The entire abdomen was distended and tympanitic. Upon opening the sac a large amount of sero-sanguinous fluid escaped. The sac was filled with omentum, cacal end of colon and small intestines, a loop of which was constricted by bands of adhesions. The omentum was inflamed and discolored in spots. The intestines were liberated, douched with hot salt solution and returned. The omentum was ligated and cut off. The sac was freed, cut off and transfixed and the wound closed by placing the cord below the conjoined tendon and Poupart's ligament. Drainage was made through counter opening in the side. In opening the sac of the left side there was an escape of a sero-sanguinous fluid. The sac was filled with small intestines which were adherent and ruptured at the ring. The incision was carried up, the intestines liberated, the rupture repaired with a few Lembert sutures, douched and replaced. The parts were closed and drained the same as the other side. The patient died of general sepsis the following day.

If these three cases had been operated upon as soon as the strangulation appeared, no doubt they



Freeing of sac.

would be living to-day. It is true that small femoral, sciatic and obturator hernias are often overlooked. One must not overlook torsion of the spermatic cord, strangulation of an undescended testicle, and suppurative lymphadenitis in the groin but if one dissects with caution there is no danger.

I wish to show you a few drawings illustrating how strangulated hernias are often reduced en masse.

You will observe that the hernial sac and its contents have been carried through the external ring without having changed their relations (Fig. 1), and the constriction persists. This is more common in the direct form of inguinal hernia in recent cases in which the sac is not adherent.

You will observe that the neck of the sac is torn loose from the rest of the sac and has been reduced with the bowel, the strangulation still being maintained (Fig. 2).

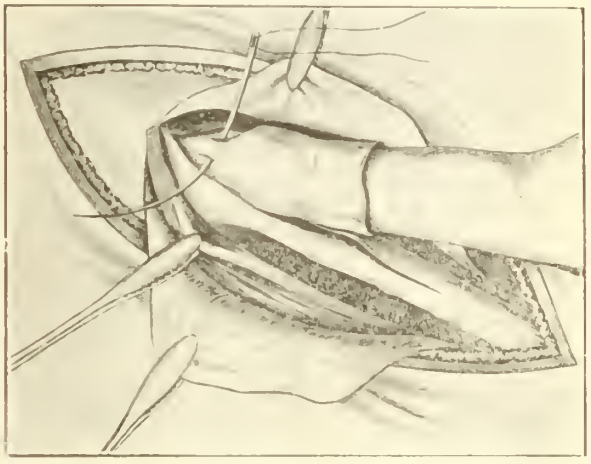
There are six principal points which must be observed in dealing with strangulated hernia.

1. Incision and freeing of the sac. 2. Opening of the sac and care of the strangulation. 3. Care of the sac. 4. Care of the cord. 5. Plastic of abdominal wall. 6. After treatment.

The operation is not difficult if one is familiar with the parts. One need not fear cutting into the intestines, for before they can be reached the sac must have been opened which will be announced by the escape of a sero-sanguinous fluid. A close eye must always be kept on the bowel at the site of the constriction, which is most apt to be at internal ring but may be at any point of the canal (Fig. 3), at times high above the internal ring, demanding, besides a division as in ordinary hernia operations, a herniolaparotomy.

After thorough preparation of the field of operation, the incision through the skin and fat to the aponeurosis of the external oblique muscle is made, extending from the point of the internal ring to the spine of the pubes, and at times down to the middle of the scrotum.

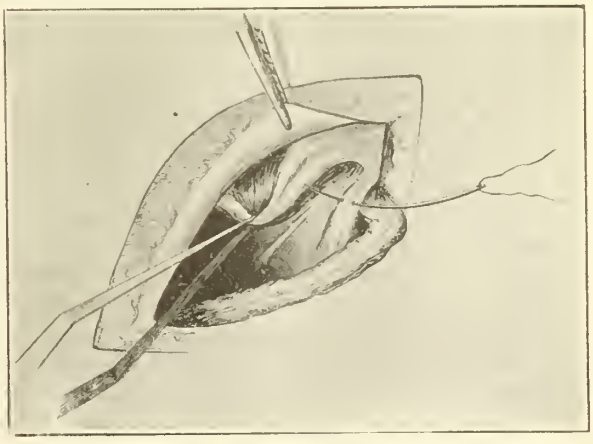
After exposure of the aponeurosis it is incised the entire length from one ring to another. One can easily recognize it by the direction of its fibres and its shiny look. It is always well to hold aside these two surfaces with a pair of forceps. We now come to the sac which should be separated from the surrounding tissue, then opened to its full extent (Fig. 4), dividing the constricting bands. It is here that at times it is necessary to combine a laparotomy with a hernia operation, instead of passing a grooved director upward and dividing constrictions as is done by some surgeons.



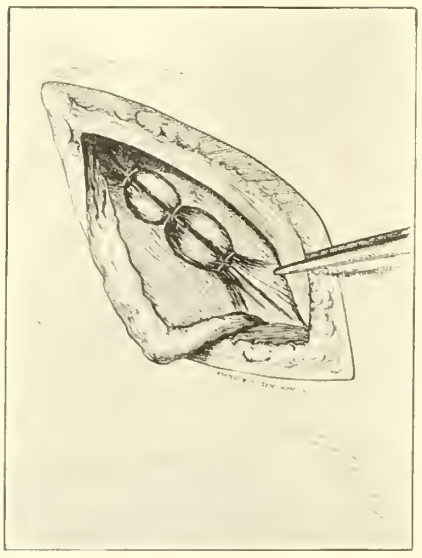
Care of sac.

The greatest care should be exercised in the examination of the bowels, never returning them unless the circulation is sufficiently reestablished, which can readily be accomplished by douching with hot normal salt solution and hot cloths. Should it be injured a few Lembert sutures may be all that is necessary, but one may be obliged to resect a portion or make an artificial anus. It is sometimes advisable to wrap the loop in moist gauze for ten to twelve hours and examine it again. An enterectomy is at times the ideal procedure since it eliminates a source of danger and permits of a radical cure, however none but those skilled in intestinal work should undertake it. An artificial anus can be made at the point of the hernia, or near McBurnay's point, and the radical cure operation performed.

After the bowel has been reduced, the sac should



Suturing of conjoined tendon to Poupart's ligament, cord held aside.



Complete closure of floor.

be loosened up (Fig. 5) to the internal ring, then ligated and transfixed to the fascia of the external oblique muscle, always making sure that the sac is free of omentum and bowel. In case a radical cure is possible one must proceed to repair the floor, allowing enough space for the spermatic cord. This can easily be done by suturing the conjoined tendon to Poupart's ligament, overlapping same in some cases. This generally requires from five to six sutures (Fig. 6) which can be of special catgut. The cord, having been held aside, is now replaced (Fig. 7) and covered by the divided aponeurosis of the external oblique muscle, this being sutured as the layer below with catgut. The next step is bringing together of the skin. The technique I have just given is that described by Bassini a number of years ago but which has been somewhat modified by a number of surgeons.

Quite a few surgeons do not bring up the cord, merely bringing up the sac, transfixing same, then suturing together the fibres of the conjoined tendon and Poupart's ligament, also overlapping the aponeurosis of the external oblique. Some few overlap the conjoined tendon with the cremaster muscle and Poupart's ligament (Fig. 8). I have modified the Bassini by suturing with catgut the conjoined tendon to the cremaster muscle and Poupart's ligament above the cord, either with a single row of sutures or overlapping same and employing a double row. In some few cases I have employed, besides the catgut sutures, four or five double figure-of-eight silk worm gut sutures. The next step is the bringing together of the edges of the aponeurosis of the external oblique muscle by, either overlapping with two rows of sutures as first published by Lucas-Championnière in 1902, or figure of eight sutures of silk worm gut as in the ordinary abdominal cases.

My object in modifying the operation in this manner is that the silk worm gut sutures can be withdrawn at any time one sees fit, whereas in case of the employment of catgut alone, the catgut is often absorbed before union has taken place.

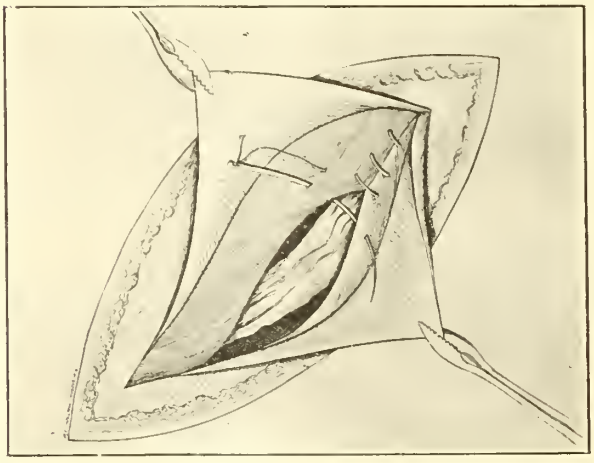
In cases where the hernia opening is very large, and the conjoined tendon atrophied, a flap of the anterior sheath of the rectus muscle may be reflected outwards and downwards, and sutured to the under surface of Poupart's ligament.

I have in a few cases split the rectus muscle and used it with the conjoined tendon. As for the cord I generally leave it below the layer of the conjoined tendon, cremaster muscle and Poupart's ligament, but in some few cases have placed it as in the original Bassini. The main feature to observe, no matter what method is employed, is strict asepsis.

The Kocher operation is not applicable in strangulated cases.

The skin can be brought together by Michel clamps, silk worm gut or horse hair.

One must not lose sight of the complications, one of the most frequent being adhesions between the



Cord placed posterior to conjoined tendon and Poupart's ligament.

bowel, omentum and sac. This requires patience and careful work. All raw surfaces must be taken care of. The bladder being near at hand may be cut into if care is not used. The appendix and most any abdominal organ may be found in the sac and must be dealt with accordingly.

The next most frequent after the form just discussed is the umbilical form, which is much easier to deal with. The femoral variety is even more urgent than the inguinal for gangrene is liable to develop earlier.

I recently operated on a case of femoral hernia that had become strangulated. The only point I wish to bring out in this case is, that this man had been examined and fitted upon two occasions with a truss for inguinal hernia, which he was wearing when he came to me, but which aggravated instead of benefited the condition. The parts were exposed by an incision parallel to and about one-third of an

inch below Poupart's ligament. A large sac was found, constructed a little below Poupart's ligament, and filled with omentum and bowel. The sac above the constriction was very large. In this case I returned the bowel, removed the omentum, transfixed the sac and brought the parts together.

In the femoral variety, besides suturing the Pectineus muscle and fascia to Poupart's ligament with mattress stitch, I use about three figure of eight silk worm gut sutures removing them in about three or four weeks. Care must be taken not to cut into the femoral vein which lies external to the hernial opening. The sac is dealt with as in inguinal hernias, namely, transfixed to Poupart's ligament.

In obturator hernia it will be necessary to expose the sac by an incision extending from the spine of the pubes downward three or four inches, about a finger's breadth internal to the femoral artery, the pelvis being elevated and thigh flexed and adducted.

The after treatment is the same as in ordinary abdominal cases. I let my patients up in about two weeks and have them wear some sort of support for several months. In this matter of hernia I feel like Murphy does in appendicitis; it is a constant source of danger and one can never know at what moment it may become strangulated, therefore all cases should be operated as soon as a diagnosis is made.

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## THE LATE DR. G. L. SIMMONS, OF SACRAMENTO.

Gustavus Lincoln Simmons was born in Hingham, Mass., March 13, 1832. On his father's side he was a lineal descendant of Moses Simmons, a member of the Pilgrim Colony by the ship "Fortune" following the "Mayflower" in 1621 and, on his mother's side, of Benjamin Lincoln, who came from Hingham, England, and founded Hingham, Mass. He received his preliminary education in the public schools and Derby Academy of his native town. When but a boy of 17, in 1849, he sailed from Boston to California by the brig "Curacoa," which foundered on the coast of the Azores, but finally reached San Francisco some nine months later, in 1850. He remained but a short time in San Francisco and then came to Sacramento, which was his home continuously until his death.

As a clerk he entered the old Boston Drug Store which was then situated on the north side of J street between Front and Second. Cholera and gambling were at their height at that time and gave him abundant opportunity to make observations both medical and surgical. He immediately became interested in medicine and in 1853 took passage from San Francisco by the ship "Yankee Blade" which was wrecked in the Santa Barbara Channel where he lost his library and other belongings. A part of these books were recovered some 40 years later and are still in possession of his family. He finished his medical education at Harvard University in 1855 and returned to California in 1856, beginning practice in Sacramento at once.

He made three trips to Europe for the study of his profession in 1866, 1871 and 1896. He was a charter member and very important factor in the organization of the Sacramento Society for Medical Improvement which was established and held its first meeting on March 17, 1868. Of this Society he was a continuous, active, loyal member for more than 42 years. The records of the Society will probably show that no other member during this long period has been more regular in attendance of its monthly meetings or more active in its deliberations. He allowed no other business or pleasure to interfere with what he believed to be his duty to the Society and to the Medical Profession.

He was one of the founders of the Medical Society of the State of California, of which particularly in its earlier history when he had more time and strength, he was an active, efficient and prominent member. In 1896 he was elected its president in which capacity he served the Society with his usual zeal and efficiency.

He was a member of the Mass. State Medical Society and of the American Medical Association, and Chairman of the Committee of Arrangements at its meeting in San Francisco in 1871. He contributed numerous papers to the medical press, read either before the Sacramento Society for Medical Improvement or before the State Society. In 1859 and 1860 he was County Physician and did the surgery for the County Hospital for some time after the election of his successor, Dr. Donaldson.

In his earlier life he did a great deal of surgery, wiring the tendo-Achillis for the first time successfully, opening the knee joint successfully under alcohol before the days of Listerism, ligating the carotid, doing splenectomy, ovariotomy and all of the operations of that time with more than usual success. He ascribed his results largely to the use of alcohol in cleansing the skin preparatory for operation and after the vogue of aseptic and antiseptic surgery often spoke of the value of alcohol as an antiseptic. Subsequent observation has substantiated his claims.

He was Surgeon Major before and during the Modoc War; member of the City Board of Health for a long period; Commissioner in Lunacy for more than 20 years; United States Pension Surgeon; the first Secretary of the City Board of Education, acting as School Superintendent; one of the founders and presidents of the City Free Library; an active member of various improvement associations and other civic bodies and president of the Board of Trustees of the Marguerite Home.

He founded and long maintained almost unaided, the little hospital known as Ridge Home and later merged into the present Sisters' Hospital at 23rd and R streets. He was chiefly instrumental in founding the City and County Dispensary and was an active member of the Board of Freeholders which framed the present charter of the City of Sacramento.

His activities as a citizen were varied, numerous and efficient. More than thirty years ago he gave the question of water supply a very thorough study both in general and in its application to the City of Sacramento. He became an early, consistent and persistent advocate of a well supply.

His professional activity continued to the time of his fatal illness. When the end visibly approached and death, unmasked, cast its shadow across his pathway he uttered no word of fear or repining but met the final summons with the calm and courage that characterized his life.

To family, friends and home he was preeminently devoted. For his family in health, he provided with a generous hand and in illness lavished on them his own loving care as few men ever do. To his home he gave great personal attention, beautifying its grounds with rare shrubs and vines which he planted and nurtured with his own hands. For his friends, even when busiest, he always found time not only for personal intercourse but even for a voluminous correspondence. His lifelong friendships, both in and out of the profession were notable.

He was an ardent lover of nature. When worn with work he was wont to withdraw to his orchard at Orangevale to dig and plant and graft and bud and prune until health and strength returned. In this was the chief recreation of his long life. He knew more of orchards and vineyards and gardens than many a man who has spent his whole life in them.

He was a wise counselor and generous friend of the young and struggling physician. A score of younger men, some of them approaching the sere and yellow leaf, recognized in him a great benefactor. More than one has said, and truthfully, "He was the best friend I ever had."

As a physician he was indefatigable; no labor was too great for him and no day too long. His profession he viewed almost wholly from its scientific and humanitarian aspects. Among his patients he saw neither rich nor poor, only men and women with diseases to be cured or relieved. No sordid, selfish or commercial motive desecrated the temple of his mind. He was a noble member of a profession made noble by the standards which he earnestly espoused and religiously observed. When the fog of commercialism clears a little from our professional eyes we shall perceive that he "saw life steadily and saw it whole." In view of these facts your committee offers the following resolutions:

Resolved, That in the death of Dr. Gustavus Lincoln Simmons the young physician has lost a wise counselor and generous friend, the community a model citizen, his family a devoted husband and father and this Society a loved and loyal member whose example was an inspiration to us all;

Resolved, That we, the Sacramento Society for Medical Improvement, extend to his family in their bereavement our deepest and sincerest sympathy.

(Signed): W. A. Briggs.
H. L. Nichols.
G. A. White.

## CORRESPONDING EDITORS

### Corresponding Editors Elected by the County Societies.

(In this space will be printed the news matter or items of interest contributed by the Corresponding Editors from month to month.)

Dr. C. L. Browning, Chico, Butte Co.

Dr. Geo. H. Kress, Bradbury Bldg., Los Angeles, Los Angeles County.

Dr. Geo. E. Tucker, Riverside, Riverside County.

Dr. F. O. Nash, Hollister, San Benito County.

Dr. Gayle G. Moseley, Redlands, San Bernardino County.

Dr. A. Miles Taylor, 209 Post street, San Francisco, San Mateo County.

Dr. T. A. Stoddard, Santa Barbara, Santa Barbara County.

Dr. Chas. M. Richards, San Jose.

### LOS ANGELES COUNTY MEDICAL ASSOCIATION.

The following resolutions were recently unanimously passed as the sense of the Board of Councilors of the Los Angeles Medical Association:

In passing these resolutions, the Board of Councilors wished in no way to curtain the rights of any individual member. It was the belief of the Board of Councilors that no man can fly two flags at one time, and that members who are receiving the benefits and privileges of the society should not at the same time work hand in hand with such groups of persons who practice the healing art, but who by the low standards of their official institutions and organizations are preventing the forward movement in higher educational standards and professional attainments for practitioners of the healing art.

The resolutions adopted are as follows:

RESOLUTIONS REGARDING OSTEOPATHY.

Whereas, Many of the Osteopaths of California are from all accounts practicing medicine and surgery, in violation of the original intent of the State Medical Law, and

Whereas, The educational standards of the Osteopathic Colleges of California are on a common school instead of a high school basis of preliminary education; and upon a three-year, instead of a four-year course of professional training; therefore be it

Resolved, That it is the sense of the Board of Councilors of the Los Angeles County Medical Association that these things are contrary to the best interests of medical education and of the healing art in California, and be it further

Resolved, That in the opinion of the Board of Councilors, while these conditions last, it is detrimental to the best development of the healing art and of the public health interests of this State and County, for members of the Los Angeles County Medical Association to professionally associate with Osteopathic institutions or Osteopathic practitioners, to the extent of giving the impression that such professional association has the countenance and good will of the regular profession, which is pledged to high educational and ethical standards, and be it further

Resolved, That it is the sense of the Board of Councilors of the Los Angeles County Medical Association that under these conditions no loyal member of this Association should become connected with an Osteopathic institution, and that no member of this Association should professionally consult with Osteopaths under present conditions, except in such cases where the health and life of the patient is in imminent danger, and be it further

Resolved, That a copy of these resolutions be printed in the Bulletin of the Association, and the attention of members otherwise called thereto, if necessary.

The Board of Councilors also adopted a plan for a system of "follow up" letters and a collection bureau, after a plan devised by the Secretary of the Association.

Each member of the Association was given twenty-five of each of the five letters and a booklet containing form blanks for notations, claim forwarding and delinquent blanks.

It is hoped the system will prove of real value and, if so, a report thereon will be made at the next meeting of the State Medical Society.

* * *

In preparation for the meeting of the American Medical Association, which will be held in Los Angeles in June, 1911, the following committees have been appointed. The general chairman will be Dr. A. Bert Ellis, and the general secretary Dr. George H. Kress:

**1. Executive Committee.**

Dr. H. Bert Ellis, chairman; Dr. Walter Lindley, treasurer; Dr. George H. Kress, secretary; Dr. W. Jarvis Barlow, Dr. Fitch C. E. Mattison, and the chairman of each standing committee.

**2. Finance Committee** (Incomplete).

Dr. Fitch C. E. Mattison, chairman; Dr Chas. Bryson, secretary; Dr. W. T. McArthur, treasurer

District Finance Chairmen—Pasadena, Dr H. H. Sherk; Pomona, Dr. Frank Garcelon; Santa Monica, Dr. W. H. Kiger; Long Beach, Dr. A. C. Sellery.

**3. Committee on Bureau of Information.** (Incomplete).

Dr. J. Y. Oldham, chairman; Dr. Rea Smith, Dr. R. F. Hastreiter, Dr. C. H. Whitman.

**4. Committee on Reception at R. R. Stations.** (Incomplete).

Dr. W. R. Molony, chairman; Dr. George A. Laubersheimer, Dr. G. A. Scroggs, Dr. E. J. Cook, Dr. Raymond G. Taylor.

**5. Committee on Hotels and Headquarters.** (Incomplete).

Dr. W. LeMoyne Wills, chairman; Dr. Titian J. Coffey, Dr. E. A. Bryant, Dr. A. L. Macleish.

**6. Committee on Halls** (Incomplete).

Dr. John T. Ferbert, chairman; Dr. Fred C. Bicknell, vice-chairman; Dr. E. W. Fleming, vice-chairman; Dr. Wm. Dodge, vice-chairman.

**7. Committee on Section Meetings Places.** (Incomplete).

Dr. Albert Soiland, chairman; Dr. Clarence W. Pierce, Dr. Fred C. Shurtleff; Section on Practice Medicine, Dr. Dudley Fulton; Section on Surgery, Dr. E. R. Smith; Section on Obstetrics, Dr. M. L. Moore; Section on Diseases of Women, Dr. Carl Kurtz; Section on Opthalmology, Dr. T. J. McCoy; Section on Laryngology and Otology, Dr. Hill Hastings; Section on Nervous and Mental Diseases, Dr. H. G. Brainerd; Section on Preventive Medicine and Public Health, Dr. L. M. Powers; Section on Diseases of Children, Dr. L. M. Moore; Section on Pharmacology and Therapeutics, Dr. Theodore G. Davis; Section on Dermatology, Dr. Ralph Williams; Section on Pathology and Physiology, Dr. John C. Colliver; Section on Stomatology, Dr. Frank Cook.

**8. Committee on Post-Office, Telephones, etc.** (Incomplete).

Dr. C. B. Nichols, chairman; Dr. A. C. Rogers, Dr. Guy Cochran.

**9. Committee on Registration of the Los Angeles Members** (Incomplete).

Dr. W. W. Beckett, chairman; Dr. H. M. Voorhees, Dr. H. G. Marxmiller, Dr. E. M. Lazard.

**10. Committee on Registration of California Members** (Incomplete).

Dr. Jos. M. King, chairman; Dr. Langley Porter, Dr. Herbert P. Barton, Dr. W. W. Hitchcock.

**11. Committee on Commercial Exhibit** (Incomplete).

Dr. W. H. Kiger, chairman; Dr. Chas. E. Zerfing, Dr. E. T. Dillon.

**12. Committee on Printing** (Incomplete).

Dr. J. H. Seymour, chairman; Dr. C. C. Browning, Dr. J. S. Hall.

**13. Committee on Program** (Incomplete).

Dr. O. O. Witherbee, chairman; Dr. E. Clarence Moore, Dr. Frank D. Bullard.

**14. Committee on Badges** (Incomplete).

Dr. F. M. Pottenger, chairman; Dr. James T. Fisher, Dr. F. W. Steddon.

**15. Committee on Non-Affiliated Associations.** (Incomplete).

Dr. Granville MacGowan, chairman; Dr. J. H. McBride, Dr. W. H. Roberts, Dr. Henry Stehman.

**16. Committee on Entertainments** (Incomplete).

Dr. Chas. W. Bryson, chairman; Dr. P. C. H. Pahl, Dr. A. T. Newcomb.

**17. Committee on Section Entertainments.** (Incomplete).

Dr. Andrew Stewart Lobingier, chairman; Dr. W. W. Richardson, Dr. W. M. Lewis.

**18. Committee on President's Reception.** (Incomplete).

Dr. W. Jarvis Barlow, chairman; Dr. Norman Bridge, Dr. Wm. A. Edwards, Dr. Milbank Johnson.

**19. Committee on Press and Publicity** (Incomplete).

Dr. George H. Kress, chairman; Dr Walter Lindley, Dr. Wm. Duffield, Dr. P. G. Cotter.

**20. Assistant Editor of the Bulletin** (Incomplete).

Dr Donald J. Frick.

**21. Committee on Scientific Exhibit** (Incomplete).

(Appointed by the American Medical Association Committee.) Dr. Stanley P. Black, Los Angeles representative.

**22. Committee on Reception to Ladies** (Incomplete).

(To be appointed.)

## THE MEDICAL LAW.

(The attorney for the State Board of Medical Examiners has carefully prepared the following statement of facts relating to the medical law and the procedure under it, with the various citations of cases and decisions sustaining its provisions. It is the desire of the Board that copies of this document be placed in the hands of all judges in the state, and of all prosecuting attorneys so that they may very readily be able to look up any particular point concerning the law or the method of procedure.

Reprints of this document may be had upon application to the Secretary of the Society, Dr. Philip Mills Jones, Butler Building, San Francisco.)

## THE STATUTE REGULATING THE PRACTICE OF MEDICINE IN CALIFORNIA IS A PROPER EXERCISE OF THE POLICE POWER.

The constitutionality and regularity of this statute (See Cal. Stat., 1907, p. 255 and amendment, 1909, p. 418), has been fully tested and upheld by decisions of our court of last resort. Any attack upon the validity of the statute itself may be answered by reference to the following cases decided in the California courts, to which are appended some cases from other states having a similar statute:

Ex Parte Gerino, 143 Cal., 412;
Ex Parte Frazer, 54 Cal., 94;
People vs. Boo Doo Hong, 122 Cal., 606;
Ex Parte McNulty, 77 Cal., 164;

In re Bulger In re Merrill, 45 Cal., 553.
Ex Parte Whitley, 144 Cal., 167;
Arwine vs. Bd. of Med. Examnrs., 91 Pac. (Cal.), 319;
De Yoe vs. Superior Court, 140 Cal,, 476.
Iowa Ec. Med. Assn. vs. Schrader, 20 L. R. A., 259;
Dent vs. West Virginia, 129 U. S., 114;
State Bd. vs. Fowler, 50 La. Ann., 1358;
Scholle vs. The State, 90 Md., 729; 50 L. R. A., 411:
People vs. Fulda, 52 Hun., 65; 4 N. Y. Supp., 945;
Board of Med. Examiners vs. Fowler. 24 South, 809;
State vs. Davis, 92 S. W., 407;
Antle vs. State, 6 Tex. Crim. App., 302.

### Procedure.

In drawing the complaint it will be sufficient to follow the language of the statute (See Stat. 1907, p. 257), Sec. 13, which reads as follows:

"Any person who shall practice or attempt to practice or advertise or hold himself out as practicing medicine or surgery, osteopathy, or any other system or mode of treating the sick or afflicted, in this state, without having, at the time of so doing, a valid, unrevoked, certificate, as provided in this act, shall be guilty of a misdemeanor . . ."

In the case of Boo Doo Hong the complaint, which followed the wording of the then statute closely, was approved: "Wilfully and unlawfully practicing medicine in the State of California without having first procured a certificate to so practice as required by law" (122 Cal., p. 607).

The negative fact—that the defendant *does not have* a certificate—while it must be alleged, need not be proved the burden is upon the defendant:

" . . . the burden is upon the defendant to show that he has a certificate to practice medicine as provided by law, and, if he failed to prove that he had such certificate, then it must be taken as true that he had not procured a certificate to practice medicine."

Ex Parte Boo Doo Hong, 122 Cal., 606.

To the same effect see

Williams vs. People, 20 Ill. App., 92;
Benham vs. State, 116 Ind., 112;
People vs. Nyce, 34 Hun., 298 (N. Y.).
People vs. Fulda, 52 Hun., 65; 4 N. Y. Supp., 945.

Issuing signed circulars and testimonials:

Benham vs. State 116 Ind., 112; 18 N. E. 454.

Exhibiting a sign as "Dr. ————, magnetic healer," being called to visit sick persons and treating them, and making certificate of death and practitioners' sworn statement.

People vs. Phippin, 70 Mich., 6; 37 N. W., 888.

State need not prove actual receipt of compensation,

State vs. Hale, 15 Mo., 607 (Reprint 407).

Attending a single case and holding oneself out to the community as a physician.

Antle vs. State, 6 Tex. Crim. App., 202.

### Exceptions.

The legislature of California has enacted laws regulating the practice of certain forms of manual treatment for the sick and providing for certificates to practice. Osteopaths and naturopaths, *holding certificates,* may practice.

Stat. 1909, p. 418.
Stat. 1907, p. 259.

Section 17 (Stat. 1907, p. 259), contains the following:

"Nor shall this act be construed so as to discriminate against any particular school of medicine or surgery or osteopathy, or any other system or mode of treating the sick or afflicted, or to interfere in any way with the practice of religion; provided, that nothing herein shall be held to apply to, or to regulate, any kind of treatment by prayer."

### Definitions—Specific Acts.

What constitutes the practice of medicine, and what acts constitute a violation of statutes, similar to ours, regulating the practice of medicine, has been judicially determined. Some cases are here given.

"The practice of medicine may be said to consist in three things: First, in judging the nature, character and symptoms of the disease; Second, in determining the proper remedy for the disease; Third, in giving or prescribing the application of the remedy to the disease."

Underwood vs. Scott, 23 South (Kan., 1890), 942.

"Medicine, in its ordinary sense, as applied to human ailments, means something which is administered, either internally or externally, in the treatment of disease, or the relief of sickness. It may be applied externally and it need not necessarily be a substance which may be seen and handled. It may consist of electricity conveyed by instruments or the human hand. And he whose profession it is to prescribe and administer this, after diagnosing the complaint, is a physician as commonly and ordinarily understood. Thus, the statute would include what is known as a medical clairvoyant who visits sick patients, examines their condition, determines the nature of the disease, and prescribes the remedies deemed most appropriate."

Kansas City vs. Baird, 92 Mo. App., 208.

Among those acts which have been judicially declared to be violations of statutes regulating the practice of medicine, are the following:

The assignee of a patent medicine cannot administer it for a fee, unless he is licensed to practice.

Thompson vs. Staats, 15 Wend. (N. Y.), 395;
Jordan vs. Overseers of Dayton, 4 Ohio (4 Ham.), 294.

Attending and prescribing, and holding oneself out as competent to prescribe.

State vs. Van Doran, 109 N. C., 864; 14 S. E., 32.

Treating a particular person for a certain disease and receiving pay therefor.

Richardson vs. State, 47 Ark., 502; 2 S. W., 187.

## SAN FRANCISCO COUNTY MEDICAL SOCIETY PROCEEDINGS.

The regular meeting of the San Francisco County Medical Society was held September 13, 1910.

The recommendation of the Executive Committee that the Society be divided into four sections, meetings to be held on each Tuesday of the month, was put to the members of the Society for vote. The members voted in favor of this recommendation, and the secretary was instructed to report to the Board of Directors for further action.

The following applicants were duly elected to membership: P. Sumner, L. A. Smith, A. Garceau, H. Damkroeger, E. Goodman, C. Johnson, D. B. Plymire, R. L. Logan, E. Lagan, T. A. Rottanzi, F. M. Sponigle, C. A. Walker, F. A. Kinslow.

The scientific program was as follows:

1—Report of a Case of Infantile Paralysis, James T. Watkins.

2—Demonstration of Kidney Plates and report of a Case of Bilateral Nephrolithiasis, W. P. Willard. Discussion opened by M. Krotoszyner.

3—Urological Atrocities, V. G. Vecki. Discussion opened by Henry Meyer.

4—Treatment of Acute Gonorrheal Epididymitis—Conservative Contrasted with Surgical, J. C. Spencer (will be published elsewhere). Discussion opened by R. L. Rigdon.

5—Remarks upon the Treatment of Impotentia Coeundi and Sexual Neurasthenia, A. B. Grosse.

These papers were discussed by the members present, and papers and discussion will appear in a later number of the Journal.

During the month of October four meetings were held. The following constituted the scientific programs:

### Section on Medicine, Tuesday, October 4.

1—The Menace of Tropical Diseases to the State of California, Herbert Gunn.

2—Case Presentations by H. D'Arcy Power, Louis D. Mead, W. C. Alvarez.

### General Meeting, Tuesday, October 11.

1—Presentation of a Case, Wm. C. Voorsanger.

2—Improved Technic in the Use of the Tiersch Graft Following the Radical Mastoid Operation, Cullen F. Welty.

3—Quantitative Dietetics, H. D'Arcy Power.

The following applicants were duly elected to membership: J. G. Null, F. S. Emmal, F. A. Hamlin, P. A. Kearney, C. E. Schoff, M. Nakabayashi, E. S. Breyfogle, G. S. Wrinkle, J. F. Sullivan, K. Kurozawa.

After adjournment a collation was served.

### Section on Surgery, Tuesday, October 18.

1—The Open Treatment of Fractures, Chas. G. Levison.

2—General Discussion on the Treatment of Fractures, T. W. Huntington, Stanley Stillman, Harry M. Sherman, Emmet Rixford, Wallace I. Terry.

3—The Transplantation of Bone, S. J. Hunkin.

### Eye, Ear, Nose and Throat Section, Tuesday, October 25.

1—Exhibition of Cases, E. C. Sewall, F. A. Hamlin.

2—Streptococcus Mucosis in Acute Otitis Media, with Report of Cases, Harry B. Graham.

### Section on Medicine, Tuesday, November 1.

Scientific program:

1—Presentation of Medical Cases, Wm. Fitch Cheney, Louis D. Mead, H. D'Arcy Power.

2—Case Reports, J. Wilson Shiels.

3—Demonstration of Specimens, René Bine.

Detailed reports of these proceedings will appear in a later issue of the Journal.

### General Section, Tuesday, November 8.

Scientific program:

1—Metastases of Carcinoma in the Ovaries and Pouch of Douglas, Julius Rosenstirn.

2—The Modern Conception of Functional Nervous Diseases with Special Reference to Neurasthenia, Gilbert V. Hamilton.

3—Demonstration of Tropical Protozoa (trypanosoma, spirilla and spirochetes), Dudley Tait.

In accordance with the by-laws, the President presented a list of thirty nominees for the Board of Directors for the ensuing year. Nominations being received from the floor, several other names were added to the list. The members will no doubt by this time have received their ballots with the names of the candidates; they are to vote for twenty-one and return their ballots to the office of the Secretary at their very earliest convenience. The following are the nominees:

| | |
|---|---|
| Milton Abrahamson, | Chas. G. Levison, |
| Harry E. Alderson, | Milton B. Lennon, |
| René Bine, | Howard Morrow, |
| Adelaide Brown, | Herbert C. Moffitt, |
| J. Henry Barbat, | Edward Giles McConnell, |
| Frank B. Carpenter, | Thos. D. Maher, |
| George E. Ebright, | Harry R. Oliver, |
| George H. Evans, | Arthur A. O'Neill, |
| Jule B. Frankenheimer, | Wm. Ophuls, |
| W. Scott Franklin, | H. D'Arcy Power, |
| Henry Walter Gibbons, | Julius Rosenstirn, |
| Louis Gross, | H. A. L. Ryfkogel, |
| Herbert Gunn, | Emile Schmoll, |
| Samuel J. Hunkin, | John C. Spencer, |
| Philip Mills Jones, | Harry M. Sherman, |
| Wm. Watt Kerr, | Dudley Tait, |
| H. B. A. Kugeler, | W. S. Thorne, |
| C. G. Kenyon, | W. P. Willard, |
| A. J. Lartigau, | Fred H. Zumwalt. |

The following amendment to Article III of the By-Laws was adopted:

ARTICLE III.

Section 3—The San Francisco County Medical Society shall be divided in three sections, i. e.:

1—Medical. 2—Surgical 3—Eye, Ear, Nose and Throat.

Sec. A—The officers of each section shall consist of a chairman, vice-chairman and secretary and such other officers as the section shall deem advisable, who shall be elected by the members of the section at the regular annual meeting in December and shall serve for one year, or until their successors are elected.

Sec. B—Only registered members of a section shall be entitled to vote at the annual election of section officers.

Sec. C—Duties of section officers: The chairman shall preside at all meetings, and shall co-operate with the Secretary and the Executive Committee of the Society in the arrangement of the section program. The vice-chairman shall preside in the absence of the chairman, and perform his duties when called upon. The Secretary shall keep a record of the proceedings of the section, and make a written report to the annual meeting of the Society in December.

Sec. D—Meetings: Each section shall hold one monthly meeting, i. e.:

Medical Section—1st Tuesday of each month.

Surgical Section—3rd Tuesday of each month.

Eye, Ear, Nose and Throat Section—4th Tuesday of each month.

## NOTICE.

Several of the case reports and papers are herewith published. It is the intention of the Secretary of the San Francisco County Medical Society to publish in full the transactions of the Society.

## SECTION ON MEDICINE OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Oct. 4, 1910.

### Report of a Case.

By H. D'ARCY POWER, M. D., San Francisco.

I beg to report a case of typhoid fever with almost certain thrombosis of the cerebral arteries and hemiplegia. These cases are quite rare and in the literature on the subject I find that Osler so speaks of them. Henshaw has reported something like 28 cases. Nothnagel refers to the rarity of the occurrence and quotes one or two from his own experience. This was a child of 8 years of age; she had always been in good health, was taken with general malaise and loss of strength, and had been sick for a period of eight days when the case was brought to me. The temperature was 104° and the general condition of the tongue was that of a typhoid patient. On the ninth day there was present some enlargement of the spleen but absolutely no other symptoms of any kind. I concluded at the time that it was probably typhoid, so put the child on the usual treatment. Blood count was taken and there was no Widal reaction, the blood was deficient in both whites and reds. The temperature, if not controlled by hydrotherapy, remained at 104°. On the nineteenth day there was a positive Widal reaction. The child was well fed, put upon a diet amounting to 2050 calories a day of cream, milk and milk sugar. Just as we were hoping for a fall of temperature there suddenly appeared a very rapid increase in respiration. I saw the gravity of the impending situation, called in Dr. Cheney, and he agreed with me that pneumonia had set in. On the following day the child developed a right-sided paralysis of the arm, slowly progressing until at the end of the forty-eight hours it was complete over the whole side. With this occurred a remarkable disturbance of the respiration, the rate was between 80 and 100 for three or four days, nearly as rapid as the pulse. Six days later the lung symptoms diminished in severity. We thought the child would pull through, when suddenly, at the end of a favorable day, extremely rapid respiration set in with marked cyanosis and the child died an hour after these symptoms started. The slow onset of the right-sided hemiplegia with the sudden (and probably embolic) ending would indicate that the symptoms could be due to no other cause than thrombosis of the cerebral arteries, and this according to general statistics is a very rare event.

**Discussion.**—G. W. McCoy, San Francisco: I have seen no case similar to the one shown, but I would like to mention what you all probably know, that in cases of typhoid it is possible to make a positive diagnosis very early, in perhaps 95% of the cases, by making blood cultures. This is much better than waiting for the Widal reaction, which often appears late. The technic is very simple, and when you get a culture of the bacillus from the blood it clinches the diagnosis as nothing else can.

### Presentation of a Case of Leprosy.

By LOUIS D. MEAD, M. D., San Francisco.

This patient was admitted to the leper department of the Isolation Hospital on May 9, 1910. He is 28 years of age, a dishwasher by occupation, and was born in Canton, China. He resided there continuously until three years ago, when he emigrated to the United States. There is no family history of leprosy, and, while he has seen lepers in his native country, denies ever having lived in intimate contact with them. There is no venereal history, or that of any serious illness prior to the onset of the present trouble. Some months before leaving China he complained of sharp pains in the legs, which were treated for rheumatism with considerable improvement. These pains returned soon after reaching San Francisco, but not with sufficient severity to prevent his working; about eighteen months ago large erythematous patches were noticed over the extremities and the back, the pain in the legs became more severe, with marked tenderness to pressure over the soft parts; finally circumscribed beefy red patches developed over the affected areas, with dark, almost black pigmentation over the shins. The condition was then diagnosed as syphilis, but under specific treatment only temporary amelioration of the symptoms was obtained. The patient slowly lost in flesh and strength, was deserted by his countrymen and compelled to live a precarious existence in a basement in Chinatown.

For many weeks prior to his admission he had lost entire control over the lower extremities, the pain having given place to occasional sensations of numbness and tingling, more marked in the legs and less so in the forearms. The physical examination on admission showed: patient in an almost moribund condition, weighing about 70 pounds; he was confused mentally, the mucous membranes were pale and cyanotic, eyebrows thin, no conjunctival involvement. The skin was dry and scaly, black pigmented areas over both shins, over both legs, forearm and back, round or irregular dark areas, from ¼ to ½ inch or larger in diameter, the color of which did not entirely disappear on pressure. Skin over fingers, feet and shins was glossy; considerable atrophy of the soft parts, and edema of the hands and feet. Bedsores were present over both hips, there were a number of dirty pustules on the cheeks and nose. Patient was unable to move the legs, patellar reflex absent on both sides. There was a marked hyperaesthesia over the extremities. Both ulnar nerves thickened and palpable at the bend of the elbow. On microscopical examination the bacillus leprae was found in great numbers in smears from the nasal secretion and pus from the face. Dr. Oliver reports the Wasserman negative.

Subsequent course of the disease. He was placed on a fluid diet for the first few weeks and as his strength and appetite increased this was made more generous until now he is and has been for some time past having a full diet. He was given frequent baths and as soon as possible gotten out of doors for the greater part of each day. From the first the improvement has been marked, the mental condition has cleared up, he is cheerful and is gradually regaining his strength. Some power has returned to the legs, but he is as yet unable to stand. At the present time there are areas of partial anesthesia over both legs, below the knees, some hyperesthesia over the feet and an interesting condition of enlargement and leprous infiltration over the dorsum of both feet, a phenomenon quite common in some lepers and which does not pit on pressure unless the legs have been in the dependant position for some time.

As to the prognosis, there is every reason to believe that under proper hygienic surroundings the condition should continue to improve and will in all probability then remain quiescent for a period of months or years, when other symptoms will begin to develop such as complete anesthesia and atrophy of the hands with contractures, possibly ocular involvement and blindness, laryngeal complications and finally death from aspiration pneumonia. An interesting point in connection with this case is that absolutely nothing was attempted in the matter of specific medication. The improvement is most apparent, he has gained 50 lbs. in weight and would not be recognized as the same man who came under our care five months ago. Had any pet therapeutic scheme been indulged in, we would have been prone to feel that the improvement was due to its benign action rather than to the good hygiene and the natural course of the disease.

(Demonstration of patient and stained slide of bacillus leprae taken from nasal secretion.)

**Discussion.**—Harry E. Alderson, San Francisco: The condition of this patient speaks for itself; it is a clear-cut case of leprosy and I think a very interesting one. In connection with the treatment of this disease I will mention that this summer I saw some interesting culture work in Honolulu by Brinkerhoff, Currie and Holman. These gentlemen have done an immense amount of work and have been successful in growing the lepra bacillus in pure culture. They now have it in the tenth generation. The next step will be the production of a bacillary emulsion for therapeutic purposes. They found that cases which had been treated with chaulmoogra oil for a while were not favorable ones from which to get material for inoculating tubes. I would like to ask Dr. Mead what treatment his patient has had.

G. W. McCoy, San Francisco: In regard to the subject of recent advances of our knowledge of leprosy, I am not sure that we are justified in speaking of actual progress. I had occasion a month or more ago to look up the literature of the subject, and I found that about a year and a half ago Clegg succeeded in cultivating an acid-fast bacillus from the spleen of the lepers who had died. He got the growth of the organism believed to be the leprosy bacillus by starting his cultures on a medium on which ameba were growing in symbiosis with the cholera vibrio. The mixed culture was exposed to a temperature of 55° to 60° C. and in this way the amebae and the cholera vibrios were killed off and a pure culture of the leprosy bacillus left. According to Clegg's work, it is surprisingly easy to cultivate the leprosy bacillus after it gets started. This work of Clegg's has been confirmed by scientists at the Leprosy Investigation Station at Honolulu. A man in New Orleans, whose name has slipped my mind, has gone over the same ground and has secured similar results. In reading the various reports one is left in some doubt as to whether all of these investigators have been dealing with the same organism. An interesting point is that Clegg has claimed that he produced leprosy-like lesions in guinea pigs. This is a remarkable thing, because practically all laboratory animals have resisted inoculation with leprosy. A Japanese worker claims to have produced the disease in dancing mice. He has carried it through several generations of these mice. His work indicates that it is very easy to produce the disease in these little rodents. If the test of time shows all of this work to have been properly controlled, we are no doubt on the eve of a very material advance in the treatment of leprosy.

Dudley Tait, San Francisco: I have followed the work done by Duval of Tulane University, who not only repeated Clegg's experiments, but went very much further. Clegg succeeded in growing the lepra bacillus in symbiosis with ameba, colon or typhoid. Duval obtained pure cultures of Hansen's bacillus on the banana, smeared with a 1% solution of cystein in agar. Duval's article in the current issue of the Journal of Experimental Medicine contains some beautiful illustrations of experimental leprous lesions in dancing Japanese mice. I would like to hear from Dr. Mead what percentage of his leprosy colony gave a positive Wasserman reaction. This point is still unsettled among syphilographers, it being apparently admitted that the further one gets away from the tuberculous type, the more frequently is the Wasserman found to be positive.

W. C. Alvarez, San Francisco: The diagnosis of these cases is sometimes very difficult when the only lesion to be found is a small pigmented area, and there are no tubercles. If a small piece of the affected skin be lifted up, snipped off, and then ground up in a small mortar with a drop of salt solution, the bacilli can generally be found in the sediment. This is the method long used in Hawaii for confirming the diagnosis in cases to be sent to Molokai.

Louis D. Mead, San Francisco: Answering Dr. Tait's question in regard to the Wasserman reaction: in two other cases we found a positive reaction in one and a negative in the other; thus far only three have been made. This patient has gained about 50 pounds in three months, has gained power in his legs and is on the mend. This is a pure type of the anesthetic form of leprosy, but most of these cases are the mixed type, i. e., the anesthetic form and the tubercular form.

October 11, 1910.

### Presentation of a Case.

By WM. C. VOORSANGER, M. D., San Francisco.

I am presenting this case before you to-night because it is one of rather unusual interest. This patient has a very advanced tuberculosis of both lungs, and in connection with this a condition of the tongue that can undoubtedly be diagnosed as tuberculous ulcers. This condition is a very rare one outside of large centers where there are such great numbers of cases seen. The patient's family history is negative. Three years ago he was taken ill, had malarial fever which kept him in bed for three weeks. At that time he began to cough and had a bad cold on his chest and since then he has gone down hill slowly. About a year and one-half ago he noticed a small growth on the tongue, which gradually spread. Now there are two large ulcers, one on the left side of the tongue with sharp edges, infiltrated; the ulcer on the other side is a smaller one, and to-night he has called my attention to another one at the back of the tongue, which is just making its appearance. To my mind this is typically tuberculous; there are only two other things which it possibly could be and they are syphilis and epithelioma or carcinoma. We can exclude epithelioma, as it did not start as epithelioma usually starts; there are but a few small glands in the deep cervical region in back, the tongue is not fixed aand has not developed enough in the past year and a half for carcinoma. Lues can be ruled out; it did not start as a syphilitic ulcer would. The man gives the history of having taken potassium iodid, in Texas, and it made absolutely no impression upon this condition. Sections have been made and tubercle bacilli have been found in large numbers in the sputum. I believe the case to be unquestionably tuberculosis of the tongue.

### The Menace of Tropical Diseases to California.

By HERBERT GUNN, M. D., San Francisco.

Read at the meeting of Oct. 4th, 1910.

The importance of tropical medicine is rapidly becoming appreciated throughout the United States and where, only a few years ago, only an occasional worker could be found interested in the subject, now there are many. The subject appears in the curricula of many of the medical colleges, some of which have established departments of tropical medicine. The result of this growing interest is apparent in the increased number of tropical ailments being recognized in all parts of the country.

No state in the Union is more vitally affected by the group of diseases generally known as tropical diseases than California. Our intimate commercial intercourse with many tropical regions furnishes an abundance of diseases peculiar to those countries. Upon the completion of the Panama Canal our increased traffic on the Pacific will give rise to new and serious problems in the prevention of the dissemination of new diseases in the country. The climatic conditions here in California are in certain parts of the state quite favorable to the development of tropical diseases, so that we have no reason for believing that if introduced they will not flourish.

Several diseases have already gained a foothold: malaria, bubonic plague, amebic dysentery and probably hookworm disease.

#### Sources of Infection.

California has undoubtedly been receiving cases

of various diseases for many years from China, Japan and Central and South America, but since the acquisition of our tropical possessions, the supply has been greatly augmented by returned soldiers and civilians. One of the greatest known sources of infection for certain diseases during the past seven or eight years has been the Hawaiian Islands. Although these islands have usually been considered quite free from most tropical diseases except leprosy, they have imported enough during the last decade to make them a serious focus for the spread of certain diseases. Their mistake was in the importation of thousands of Porto Ricans to work the sugar plantations.

Five years ago the writer demonstrated that over fifty per cent of these people were affected with hookworm disease, which they had contracted in Porto Rico. These conclusions were reached after the examination of over 100 Porto Ricans who had taken up residence in California after leaving the Hawaiian Islands.

Within the past year several cases of this disease came under observation which were undoubtedly contracted in the Hawaiian Islands. While considerable sums have been expended by the Federal Government to stamp out this disease in Porto Rico, it has been gaining a foothold in Hawaii; by the time millions of dollars have been expended in the South to eradicate hookworm disease, it will probably be found to have gained a strong foothold in California. Scattered throughout California to-day there are hundreds of cases and more are constantly arriving.

In San Francisco there is quite a colony of people affected with hookworm disease. In the cities, on account of the sewerage, there is practically no danger of the disease being spread, but in rural districts the danger is great. The soil and water supplies being contaminated, man is infected either by the entrance of the parasite through the skin or by ingestion of infected material. Within the past year several cases of this disease have been reported as originating in this state. The most important of these, occurring in a mine in Amador County, was described by Dr. F. P. Sprague. Conditions in mines are often ideal for the propagation of the hookworm, and once established it is very difficult to eradicate. Vast sums were expended in the Westphalian mines before it could be controlled, but thus far all efforts to absolutely stamp out the infection have not availed. The number of cases has been greatly reduced and the severity of these lessened by early treatment. The magnitude of the task may be appreciated when it is stated that at one time there were 25,000 cases in these mines.

It can readily be appreciated that the infection of the Hawaiian Islands and California with this disease is a matter of considerable importance; yet, so far as is known, absolutely nothing has been done to prevent the disease gaining a foothold in this state. Many of the Porto Ricans harbor, in addition, the filaria sanguinnis hominis, a small blood worm which is transmitted by the mosquito. About a dozen cases of this infection have been observed by the writer in San Francisco, also several cases of elephantiasis, a disease believed by many to result from filarial infection. It was estimated that about ten per cent of the Porto Ricans are infected with this parasite, so that at least a couple of hundred infected individuals are scattered throughout the state. Filarial disease is found in most tropical countries so that, if sought, it doubtless could be demonstrated among other races here.

Dr. Wellman of Oakland has demonstrated that the mosquitoes in that locality will not carry the parasite, but, of course, we do not know what the result would be in other parts of the state.

A rarer infection, also found in the Porto Ricans, is the schistosomum hematobium, or schistosomum mansoni (Bilharzia disease), a worm inhabiting the veins and producing dysenteric symptoms. Three cases came under the writer's observation in San Francisco which are, as far as is known, the only ones reported in the United States.

Another species of this parasite (very prevalent in Egypt) affecting the bladder, has been observed here on several occasions. A third species called S. Cattoi or S. Japonicum could doubtless be found if sought among our Japanese or Chinese colonies, as it is quite prevalent in parts of Japan and China. The life history and mode of development of these parasites is not understood, so we do not know how much danger there is of the disease being disseminated. Amebic dysentery, one of the greatest scourges of the tropics, has already gained a foothold in this state and cases developing here are occasionally encountered. It is impossible to trace the origin of this infection in California, but unquestionably the disease has been greatly disseminated by infected persons returning from the Philippines and taking up residence in the rural districts. In several parts of this state, amebae have been occasionally demonstrated in water supplies and in washings from vegetables such as lettuce, but further work is necessary before it can be definitely stated that these were disease bearing. Bubonic plague, which has taxed our efforts so greatly for the past few years, has gained a firm foothold in California in the ground squirrel and isolated cases may be expected to develop at any time. However, with the present efficient Federal inspection it is not probable that any serious outbreak will occur. The eradication of plague in San Francisco affords one of the most striking examples of the brilliant results of modern sanitation. Malaria, which is so prevalent in certain parts of this state, should for several reasons be looked upon from a tropical standpoint. Filariasis, which we have at hand, and yellow fever, which we may have at hand with the advent of the Panama Canal, are, like malaria, mosquito-borne diseases and may, under favorable conditions, thrive here. In certain localities in the tropics malaria of the estivoautumnal variety at times develops most malignant characteristics. The parasite found in these pernicious cases appears the same as the ordinary estivoautumnal parasite found in the milder fevers, but as the pernicious cases are usually confined to certain localities and do not occur in many places where the estivoautumnal parasite is prevalent, it would seem possible that there may be some difference in the parasite. If this were the case it might be possible for the parasite of the pernicious variety to become established in our malarial districts. The writer has seen three cases of pernicious malaria in San Francisco, one of which died. One was from New Orleans and two from the Philippines. Of three human cases of lung fluke disease observed in the United States, two occurred in California—one found by Dr. Cooper and one by Dr. Wellman.

This disease is quite prevalent in certain parts of China and Japan, and doubtless many cases here have been overlooked, it usually being mistaken for tuberculosis. The life history of the parasite is not understood. Cases of gangosa described by Dr. Geiger of the United States Navy, leprosy, beriberi, liver fluke disease, sprue and diarrheas produced by the strongyloides intestinalis and balantidium coli, complete a list of tropical diseases observed in California, which I am quite sure could not be duplicated in any other state in the Union.

None of the diseases considered in this paper except leprosy, plague and yellow fever come under the regulations of the quarantine service, so there is nothing to prevent infected persons going and coming where they please. Of course, in some of the diseases it would be very difficult to know what to do with them if they could be regulated, but in others the measures that should be taken are perfectly understood. The eradication of yellow fever in Havana and in the canal zone shows what attention to the mosquito may accomplish.

Malaria and filariasis may be controlled in the same way. Attention to the rat cleared San Francisco of the plague. Other diseases such as amebic dysentery and hookworm disease are controlled by preventing contamination of the soil and curing the cases. In hookworm disease a cure can be accomplished in a few days, i. e., the parasite can be destroyed; so by treating all cases and guarding against reinfection the disease would theoretically soon be stamped out of a community. However, the long life of the embryo, over a year in the laboratory, makes its eradication from the soil a very difficult problem, as has been demonstrated, especially in the mines of Westphalia and Cornwall.

In this day of preventive medicine, it would seem that measures should be taken to control, as far as possible, the influx of persons infected with these diseases. Up to the present time nothing has been done. A Chinese, a Japanese, a Hindu or a Porto Rican has been permitted to introduce the diseases peculiar to his country without a question.

**Discussion.**—P. A. Surgeon M. W. Glover, San Francisco: There seems to be some little confusion as to the exact duties of the different marine hospital officers here, and I will make that clear first. In the first place, I am not the quarantine officer. That station is also on Angel Island, it is true, but I am attached to the Immigration Service, for the purpose of examining aliens coming into the country, to determine whether they have any contagious disease, are insane, idiots or imbeciles or unable to earn a living from any physical cause. It is a very difficult matter to carry out this inspection so thoroughly as to exclude all of the tropical diseases that Dr. Gunn has been speaking of. There are some of them that are classed as dangerous contagious diseases or loathsome contagious diseases that are sufficient to deport the alien outright, except in certain cases where the alien has the right to land irrespective of his physical condition, such as a native or the sons of a native. A Chinaman who is a native goes to China and marries; maybe ten or twelve years later his son will come over and must necessarily be landed on proper identification. Those cases we cannot do anything with, they are landed immediately; that question has been thrashed out in the courts and there is nothing to do but to land them. The poor benighted Hindu has been pretty well kept out heretofore; regardless of the hookworm, every opportunity has been taken to keep him out. Before I began to examine the stools of these people they were certified for debility, poor physique or anemia and they were sent back. Now I have some good scientific reason for certifying them and my conscience is a little clearer. Many cases of hookworm disease must have entered the country, because since I have been looking for the hookworm ova I find it in cases that present no clinical evidence of having the disease. I have found some cases of amebic dysentery and several cases of malaria from Mexico and Panama, going to the Orient, but no effort is usually made to stop this class of case going out of the United States. I was much interested in the paper just read by Dr. Gunn, and also in the case of leprosy exhibited by Dr. Mead. Hereafter I will keep my eyes open for leprosy, though such cases are supposed to be barred by the quarantine officers.

Herbert Gunn, San Francisco: Hookworm is a disease that can be very readily controlled because it can be cured in a few treatments. It seems to me that it is an awful thing to allow a state to become infected with a disease which is so hard to eradicate from the soil when it once gains a foothold. This state in the last five years has been overrun with cases which were allowed to scatter throughout the farming regions and thus have probably infected the country.

## A Case of Continued Fever.

By W. C. ALVAREZ, M. D., San Francisco.

Read at the meeting of Oct. 4th, 1910.

Nothing will teach a man so much, or keep him so humble, as the frequent performance of autopsies. He will become all the humbler if the mistakes and oversights occur in his exhibition cases like the one I am about to describe. Such accidents must have happened even to the Father of Medicine, judging from the first of his famous aphorisms, "Experience is fallacious and judgment difficult."

T. H., aged 53, a laborer, came to Cooper College Clinic September 6, 1909, complaining of a dull, dragging pain in the right lumbar region, so severe as to keep him from any rest or sleep.

His past history was negative except for a little malaria. He never had anything like rheumatism, and never had any joint pains in this or any other illness. He did not remember ever having any symptoms referable to the heart, and that organ seemingly had always been competent. There was no history of any lung trouble.

He had been feeling badly and suffering some pain since the first of the year, and had to quit work two months previously. A significant point was that the pain was relieved by sitting erect. No note was made as to any tenderness of the spine at the time, though it must have been looked for. There was marked rigidity of the lumbar vertebrae. He perspired freely on slight exertion. The heart sounds are described as forcible and clear. The pain later moved around into the back. Under pot. iod., sod. sal., colchicum and aspirin he seemed to improve, and was discharged November 29 as better.

A month later he was admitted to the polyclinic service at the C. and C. Hospital, much emaciated, and complaining of the same severe pain, now in the right hypochondrium, sometimes severest over the gall-bladder and sometimes over the appendix. This led to his transference to the surgical service for operation. They could feel no mass in the abdomen, and, as there was very little resistance, they very discreetly sent him back to the medical side for a diagnosis.

There the following notes were taken. The pain has sometimes shifted over to the left side for a while. It has never radiated down the ureter. There has been no precordial pain or symptoms referable to the heart. He has lost sixty pounds in weight in the last year. There is no mention of pulse or temperature in the Cooper Clinic record, and the patient states that he began to notice fever shortly before entering the hospital. During the five months of his stay there, he ran a septic temperature from 103° to 99° in the mornings, without intermissions.

The face is red with marked cyanosis of the nose and ears. The hands are also very cyanotic. There is slight dyspnea and respiration is mainly thoracic. No definite pathologic changes in the lungs. The heart is slightly enlarged to the left, a systolic thrill can be felt and there is a double mitral murmur. In the abdomen, a distended cecum can be seen, which disappears under palpation. There is slight rigidity of the muscles on the right side, and a little tenderness over the appendix. There is no tenderness over the gall bladder where the pain is now localized. The spleen and liver are not enlarged, and there is no mass to be felt anywhere. There is absolutely no tenderness of the spine on vigorous percussion and no disturbance of sensation can be demonstrated. The reflexes are slightly exaggerated in the lower extremity.

Counts made in January showed a leukocytosis of 11,000 to 14,000.

Dr. Schmoll made a diagnosis of chronic ulcerative endocarditis with an embolus somewhere in the corresponding spinal segment to account for the pain. This pain, by the way, disappeared suddenly nearly

two months before he died, and did not return. The occasional pain in the left side suggested infarction of the spleen. A blood culture was made February 3, and showed staphylococcus aureus, which was thought to be a contamination. A second blood culture, after three days in the incubator, showed a delicate growth of a streptodiplococcus which appeared to be identical with the diplococcus rheumaticus of Ponyton and Paine. After several transplantations, the growth from three agar slants was injected into two rabbits, but did not produce any symptoms whatever in either animal.

The patient was now given large two-hourly doses of sod. sal., with sod. bicarb., and he had a day entirely free from fever, the first in months. His general condition seemed to improve very markedly, and he got up out of bed and walked around a little. There was no paralysis and no disturbance of gait. The murmur and thrill also disappeared.

He was now the exhibition case of the ward, many men went over him, and the University of California held a clinic on him. All agreed that a nice diagnosis had been made and well proven. But the improvement was only temporary and he died on April 13, after a short terminal pneumonia. Fortunately we were able to secure an autopsy through the courtesy of the anatomical department of Cooper Medical College. Unfortunately we had taken good care to apprise our colleagues at Cooper of their diagnostic shortcomings in this case, and next day they were out looking for us. The pathologist, with his usual ruthlessness, had spoiled the whole thing. This is what he found.

The heart showed only an old sclerotic process at the mitral orifice and no recent endocarditis. Nothing was found in the vascular system to account for the bacteremia.

Both lungs were firmly adherent along the bodies of the ninth, tenth and eleventh dorsal vertebrae. This was found to be due to a tubercular caries which began in the ninth dorsal vertebra and extended along the intervertebral disc through both sides and backwards into the spinal canal where a large mass of granulation tissue was beginning to press on the cord. Abscesses were formed on each side, the larger on the right, which finally spread into the lung and caused a caseous pneumonia. The intercostal artery and nerve on the right side were exposed in the wall of the abscess cavity. There were a few tubercular ulcers in the intestines, a few abscesses in the prostate and several nodules in the kidneys, liver and spleen.

The original focus was probably an old fibrotic process in the left lung.

The first thing to do with an obscure case like this is to put the man to bed in a good hospital where he can be observed for a few days at rest. The man was seriously ill when he came to Cooper, and it was a mistake to try to treat him through the clinic. The temperance must be taken every few hours so as to detect any afternoon rise. The pulse is also very important, as it sometimes has a typical curve when the temperature does not vary much. The persistence of the rapid pulse with rest in bed is a valuable sign of toxemia—often tubercular. It must be remembered that the rise in temperature does not have to start from 98.6°, the accepted normal. Many of us have a temperature of only 96°-97° when at rest in bed, so that the earliest sign of a beginning tuberculosis may be a regular rise to 98.6° or 99° at most.

The case under consideration is an excellent example of how sometimes things seem to conspire to lead one astray. In the absence of the heart murmur and the positive blood-culture, we might have continued studying him in other ways until the tubercular process was discovered. It might be mentioned here that it is proverbially difficult to interpret heart-murmurs in the presence of fever and anemia. Towards the close of this man's illness, tubercle bacilli might have been found in the feces as pointed out by Rosenberger. An examination of the prostate and testicles should never be omitted as they are often the seat of tubercular foci. In this case, the prostate was known to be large. Strange to say he never had any cough or sputum in spite of all the pleural irritation. It is also remarkable that there was no tenderness of the spine and no interference with the function of the cord.

Let us now briefly consider the subject of chronic malignant endocarditis.

Osler has frequently called attention to the fact that there is a form of endocarditis which can run on for months, with a little fever as its only symptom. The more acute cases generally do not last longer than three months and the course is marked by chills and sweats which greatly resemble malaria. The diagnosis is fairly easy, however, as the heart symptoms are predominant, and there is a history of recent broken compensation perhaps after rheumatism or pneumonia.

The very chronic cases often show for several months little more than the persistent fever and they sometimes keep at work with very little toxemia, fair appetite and only slight loss in weight. The disease is really a septicemia, with occasionally symptoms of a mild pyemia, and it is not surprising that it is often taken for ambulant typhoid.

The presence of the old sclerotic valves, and especially congenital lesions is very important as a predisposing factor.

The fever is remittent, seldom rises over 102°—103°, and is very regular except for occasional periods of apyrexia which may occur, especially towards the end of the disease and give rise to the deceptive hope of recovery. There are no subjective heart symptoms and the murmurs show remarkably little change even with marked alterations in the condition of the valves. There is generally a little enlargement and dilatation of the heart. Signs of embolism are of greatest importance when found. There may be sudden swelling of the spleen with pain and perisplenitis; sudden hematuria; retinal hemorrhages; hemiplegia; crops of purpura, and very diagnostic small painful erythematous nodes which appear suddenly, especially on the hands.

Blood-cultures are very valuable in these cases as in a large proportion, the bacterium can be isolated. Five to ten cc. of blood can easily be taken from the veins of the arm without causing much discomfort. The skin over the vein may be sterilized and anesthetized with a tiny drop of pure phenol and even nervous women will not complain at all.

The commonest organism found is a streptococcus of low virulence as shown by animal experiments and the fact that the emboli never suppurate as they do in pyemia. There is rarely any leukocytosis though the number of circulating bacteria may be enormous, and the toxemia is generally slight.

Horder has studied the streptococci isolated from thirty-one cases and concludes that most of them are identical with the non-virulent strains found normally in the saliva and feces. This low virulence and autogenous origin may also account for the great chronicity of these cases and the failure of the body to cope with the infection. The streptococcus which was isolated in our case was undoubtedly one of these avirulent strains which had entered the blood as a terminal infection at least three months before the end.

Endocarditis has been produced in rabbits with these streptococci.

Other conditions to be thought of in a case like this are typhoid with relapses, syphilis, Hodgkins disease, malignancy and sepsis, in which the focus may be in the pleural cavities, the liver, the biliary system, the renal pelvis, the appendix, the Fallopian tube, the urinary bladder, the middle ear, the nasal sinuses. The leukocytes will be normal in number if the septic focus is well walled off, but a count

should always be made immediately after a chill, as a rise at that time is very significant.

The study of these cases of protracted fever is one of the most interesting in the field of medicine, and with all our refinements of diagnosis, the autopsy too often has a surprise in store for us if we have been able to form any kind of a diagnosis at all.

In closing, I wish to thank Dr. Schmoll for permission to report this case, and Drs. Dickson and Blaisdell for their great courtesy in securing the autopsy.

**Discussion.**—Herbert Gunn, San Francisco: Speaking of prolonged temperatures, Dr. Alvarez mentioned Hodgkins' disease. I saw a case in the City and County Hospital five or six years ago, and followed it for about two years; there was remittent temperature running about two weeks, followed by an intermission of two or three weeks with the temperature normal or subnormal. This lasted for several years. The diagnosis was made of Hodgkins' disease of the variety described by Ebstein. Finally the man came to autopsy and the diagnosis was verified.

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## QUANTITATIVE FOOD PRESCRIBING.

By H. D'ARCY POWER, M. D., San Francisco.

Read at the meeting of Oct. 11th, 1910.

It would be interesting to ascertain the percentage of physicians who in the United States, or for that matter in any country, habitually prescribe a quantitative dietary for their patients' use. So far as I have been able to judge one per cent. would be in excess of the truth, yet it is universally recognized that every deviation from the physiological norm is fraught with loss in matter or energy, that too often is irreparable. Why then do we not prescribe foods with as much accuracy as we apply to drugs? Why do we condemn the shotgun prescription and condone the shotgun diet? The true answer is that quantitative directions are not given because many do not know what to order, and others are unable to give directions that are intelligible to their patients. The work of the past twenty years has brought some order out of chaos. We do know the food requirements of the body in health and disease, we do know the ability of the various food stuffs to supply these demands. But this knowledge has not been put in a form capable of utilization by the general practitioner in his daily work. This communication is a small attempt in the latter direction. I hope to show that without lengthy and perplexing tables we can prescribe qualitatively and quantitatively with sufficient accuracy to meet all clinical requirements and in a manner understandable by our patients.

In order that I may justify my method, it is necessary to draw your attention to some of the well attested principles that underlie all dietetics. Let us first note that there is not only an absolute obligation to eat, but also to eat a certain quantity. We must oxidize enough matter each day to preserve our normal body heat,—if we fail we die. We must take in that matter as food, or take it from our body tissues. The amount of heat we lose is determined by the extent of our skin area, and for men living under normal conditions this is the one and sufficing factor in fixing our daily ration. A dead body left in bed cools at a definite rate, a living body radiates heat under the same conditions at the same rate, namely, about 1000 cal. per sqr. meter or 30 cal. per kilo. If no food is taken the amount of heat is obtained by the oxidization of the tissues (13% protein, 87% fat). From this law there is no escape, but how often is it overlooked in sickness. A sick child refusing its food, loses weight twice as fast as an adult under like circumstances. How many of us make an estimate of its caloric requirements and see that they are supplied? A short fat man and a tall thin man of like weight come down with typhoid fever. Do we realize that the dietary of the two should be quantitatively different and that if we fail to note this a heavy penalty will be exacted? Speaking of typhoid, I feel that if natural laws have any validity, then most assuredly we have been responsible in the past, and are still frequently responsible for much of its mortality. For years we fed our typhoid patients on an empirical diet, of milk 40 oz., beef tea 40 oz., less than one thousand calories, when the body was losing at least 2000. Thus Dr. Thomas McCrae of Johns Hopkins in his recent article on the Treatment of Typhoid, prescribes as a diet to be used throughout the attack 24 to 36 oz. milk and the whites of two eggs in water; if any change is made it should be in the nature of a reduction. The learned writer makes no reference as to whether the patient is fat or lean, short or tall, all alike are condemned to a daily loss of substance equal to 2000 calories, or more. That an obese individual might with benefit borrow 50 lbs. of his weight to supplement his diet is conceivable, but that a normal or thin person can so deplete his tissues without harm is absurd. No wonder we meet with degenerative lesions in the latter periods of the disease. This law of minimum requirement is all important in health as well as disease. Thus we meet with healthy people under and over weight. A careful enquiry into their food habits (I make them bring me a detailed account of everything they have eaten and drank for seven days) will show that many of the under-nourished are living so close to the physiological minimum that occasional dips below are not made good. As to the obese, the common fallacy that they cannot be relieved by diet is foolishness. Chittenden has shown that an obese man can be fed on a diet equal to two-thirds of his daily loss without any harm. When his proper weight is attained it is merely a matter of seeing that his daily diet shall not exceed his minimum physiological requirement. In connection with this matter of obesity, I would draw your attention to another law of practical application. When the daily intake of food exceeds the body needs, its constituent parts are differently dealt with. All the proteid is consumed, most of the carbohydrate suffers oxidation, but if the food contain fat, this as the least easily oxidized is most prone to be stored. If therefore your obese individual will not restrain his appetite, he will make the least gain on a proteid diet.

It will now be in order to consider what is a physiological diet, by which term I mean the minimum daily intake of food that shall provide the necessary energy without loss of weight. Anything more than this must of necessity be a detriment—for all burning of unused residues implies labor and cell exhaustion, and all storing of surpluses, so much useless additional weight with corresponding tax on the organism. Let it first be noted that the figures obtained by observing the loss of a starving body at rest and protected from cold, are suggestive but not conclusive of our needs. The loss of body weight equal to the 1500 calories p.d. cannot be replaced by a food allowance of equal caloric value. Losses occur in the intermolecular combinations, which demand a larger intake. The question is, how much? There are two methods available to the investigator. We can observe the general experience of men under varying conditions; and if widely separated races and classes give an approximately uniform response, accept this as nature's answer. Secondly, we can ascertain by careful experimentation under conditions that admit of exact measurement, the minimum food supply compatible with active work and perfect health. Both methods have their advocates, and if the results agreed there would be no more to be said on the subject. For a long time such an agreement was supposed to exist, and the laboratory findings were closely in accord with the average human experience. Thus the dietaries of farmers in the New England States, Mexico, Italy and Finland run about 3500 cal. p.d. Even the quite

different form of food consumed by the frugal Japanese when considered in reference to their stature is not different in value. The municipal food statistics show that town dwellers in the aggregate consume not so very much less. The average of London, Paris and Munich, a total population of 10.-000,000, being 2800 cal. p.d. With these findings the experimental deductions of the earlier investigators were in general accord. They vary from Rubner 2800 cal. to Atwater's 3400 cal. p.d. These conclusions seemed to be final until Professor Chittenden commenced his remarkable experiments. He cut down the proteid food to half the supposed normal intake of 118 grams and reduced the total food to a caloric value of 28 per kilo—1600 c. p.d., and yet after a short period of adjustment he lost neither weight nor strength. What he found true for himself he demonstrated by extensive experiments on men in all walks of life, age and occupation, and so far, though much criticism has been expended on his conclusions no refutation has been made. Most of the criticism is based on the assumption that natural cravings must be right. The idea is excellently expressed in the words of Sir William Roberts when he wrote that: "The generalized food customs of mankind are not to be viewed as random practices adopted to please the palate or gratify an idle or vicious appetite. These customs must be regarded as the outcome of profound instincts which correspond to certain wants of the human economy. They are the fruit of colossal experience accumulated by countless millions of men through successive generations. They have the same weight and significance as other kindred facts of natural history, and are fitted to yield to observation and study lessons of the highest scientific and practical value."

I have no desire to show disrespect for nature's works or promptings, but they must not be made into idols. There are those who would declare the removal of the vermiform appendix an act of sacrilege —nature having intended it for use. That the use lapsed some millions of years ago in our prehuman ancestors is overlooked; but what is true of vestigial organs is no less true of primitive appetites that have survived their time. Primitive, and in some regions savage man, suffered enforced fasts; to make good his losses nature evolved an appetite in excess of the normal daily requirement, and that abnormal appetite we inherit—just as we inherit the obsolete appendix. We are safer without the appendix and we would be safer on a physiological than on an excessive diet. However, so far as our purpose is concerned the difference between the authorities is not large enough to be of serious moment. We have seen that the heat expenditure which determines our alimentary needs is dependent upon skin area. According to Voit (Zeitschrift fur Biologie, 1901), we need 1040 calories for each square meter. The most accurate estimate of the body's needs would be obtained by an estimation of its areas. This can be done by applying the formula here given to the known weight of the individual.

$$12.3 \sqrt[3]{\text{(body weight)}}\ 2\text{—area in meters.}$$

I append a table of body weights and skin areas so calculated. In daily practice the method is cumbersome and unnecessary. Another, and popular method, is to calculate the required calories on the basis of the weight—the average of accepted formulas being 32 calories to the kilo—(16 calories to the pound). This is simple but if the patient is far from the normal in weight, he will receive either too much or too little food, moreover, small individuals and children have relatively larger areas than the tall and stout, and need a larger number of calories per kilo. To correct these discrepancies various correctives are employed. Thus it is advised that the normal weight for the patient's height be used instead of the actual weight, special correction introduced for the upper and lower limits. All this is easy in laboratory records, but too cumbersome for the average practitioner in his daily work. I have devised a simple rule based on a knowledge of the height alone, that calls for neither tables or calculations, and meets all the requirements of clinical practice. It is this: Allow 2000 calories for 5 feet of height and add 100 calories for each inch in excess. Comparison of the results with Rubner's tables based on skin area (Handbuch der Ernahrungstherapie 1903) will show a close approximation to the theorctical demands.

This enables us to simply ascertain our patient's height, and immediately know how many calories he needs. If he be bedridden 25% are deducted, if at severe labor 25% are added. This is the first simplication I desire to offer. We next encounter the much more troublesome question as to how the necessary calories are to be supplied. Modern books on dietetics and therapeutics supply us with tables, mostly those of Atwater, whence we can learn how much fat, proteid, etc., is present in a kilo of raw sirloin steak or a like quantity of blackberries, and if we have abundant time and some knowledge of chemistry and cookery we can calculate out the food for say one day on the required basis of calories; but how to instruct a patient to provide himself with a reasonably varied diet, day in and day out, uniform in quantity, liclh not in these tables, and the art is practically non-existent in the mass of the profession of this hour. Nevertheless, attempts at a solution have been sought. Dr. Arnold of Lynn, Mass., some time back devised a set of tables giving much information concering the values of cooked foods with provision for ordering daily quantities. The method is applicable to hospital practice, but you can judge for yourselves how far they solve the problem of enabling John Doe's wife to cook John's daily ration of 3000 calories. It occurred to me in my first attempts at food prescribing, that we must give our orders in terms the public understand. Custom has largely standardized our table habits, slices of bread are fairly equal size. Biscuits are made to a common standard. Though eggs vary individually they have a common weight in the aggregate. The mass of people know what a pat of butter is, and sugar is cut in fairly uniform cubes. A full helping and a small helping of meat correspond with reasonable accuracy to four and two ounces. If we can ascertain the weight and the caloric value of the average food portion served in restaurants and families we can order our dietary in terms of such portions, and attain a close approximation in the aggregate to our theoretical requirements. To this end I collected so far as I could the caloric value of our common foods when cooked, and then ascertained by inquiry at hospitals, restaurants, and by personal weighings in the home, the weight (and thus the caloric values) of the average portion of the common foods as served at the table. Herewith I give the weights and values of such food portions:

| Cooked Foods. | Caloric Value. | | |
|---|---|---|---|
| | Per oz. | Per average meal portion. | |
| Olive oil | 200 | ½ oz. | 100 |
| Butter | 200 | ¾ oz. | 150 |
| Bacon } Ham } | 150 | 1 oz. | 150 |
| Sugar | 120 | 1 oz. | 120 |
| Crackers | 110 | 2 oz. | 220 |
| Cake | 110 | 2 oz. | 220 |
| Cheese | 110 | 1 oz. | 120 |
| Meats | 90 | 4 oz. | 360 |
| Toast | 90 | 2 oz. | 180 |
| Dates or Figs | 90 | 1 oz. | 90 |
| Bread | 80 | 2 oz. | 160 |
| Eggs | 80 | 2 oz. | 160 |
| Stewed dried fruit | 80 | 2 oz. | 160 |
| Sardines | 80 | 2 oz. | 160 |
| Pies and puddings | 50 | 4 oz. | 200 |
| Poultry and game | 50 | 4 oz. | 200 |
| Cream | 50 | 2 oz. | 100 |
| Potatoes | 30 | 1 large | 120 |
| Beans | 30 | 2 oz. | 60 |
| Rice | 30 | 4 oz. | 120 |
| Green peas | 30 | 4 oz. | 120 |
| Hominy, macaroni, noodles | 30 | 4 oz. | 120 |
| White fish and shell fish | 25 | 4 oz. | 100 |
| Milk | 20 | 10 oz. | 200 |

Note the average oz. value is 80 c.

Note the average portion value is 160 c.

Plain soups, green vegetables and fresh fruits have flavoring and chemical properties but so little nutritive value that their presence in a dietary need not be considered.

It will be noted that there is a close approximation in the values of the foods in commoner use. While the value per ounce varies all the way from 25 calories for white fish to 200 for butter, the actual quantities used approximates all to a common standard of 160 calories for the amount usually partaken at one meal. This enables us to tabulate the foods in actual use with their caloric value as served at the table. The matter is further simplified by the fact that a number of substances, such as raw fruit, green vegetables, and plain soups have practically no food value and their presence in a dietary can be neglected. Patients are told to eat such quantity as they desire, but to carefully regard the butter, cream or sugar used in their preparation. With a short list of some twenty-four articles it is a simple matter to order a dietary to suit any case. We ascertain the patient's height, put down 2000 for five feet and add as many hundred calories as there are inches in excess. This is the daily caloric requirement for moderate work. We divide the number by 160 and the product is the number of meal portions to be taken each day. These are distributed throughout the twenty-four hours according to the desires of the patient or the will of the physician. Unless there is reason for a particular diet it is not necessary to specify what the food portions shall be, for while some are above 160 calories and others below, the average will fall out true, unless the patient has marked idiosyncrasies in eating. So simple is the card of directions that I employ that the patient of ordinary intelligence is quite able to correct such errors.

Finally I would draw your attention to a still simpler method of finding the daily number of meal portions for adults of normal weight. Namely, divide the weight by ten and the answer is the number of meal portions.

In a field in which there are no absolutes I trust that this attempt at simplification may lead to relative accuracy and the common practice of quantative food prescribing.

**Discussion.**—Caroline Rosenberg, San Francisco: I should like to ask Dr. Power what he thinks about the vegetarian diet. I have known well two people who are vegetarians, one is a girl of 22 who for ten years has lived exclusively on a vegetarian diet, never using milk, eggs or meat. She is of normal weight and in exceedingly good health. The other case is that of a woman 55 years of age, who for seven years has lived on this sort of diet. How can you account for the nourishment from fruit and vegetables if in them there are not to be found the required number of calories?

Langley Porter, San Francisco: This is one of the most important subjects that can be brought before the society, and I am sure that all of us are indebted to Dr. Power for his paper. The day has passed by when the magic potion is all that is demanded of the physician. My work among children brings me to lean heavily upon this knowledge which Dr. Power has given you. The modern feeding of children is based upon a knowledge of the caloric value of foods and upon the caloric needs of infants and children, and certainly the proper feeding of adults must necessarily be based upon the same principles. In this connection there are a few things which one must learn, and Dr. Power tries to give us surcease from the pain of learning. I wish to congratulate Dr. Power for the simple and ingenious grouping which he has given us tonight. Having these in mind, and having the simple needs of the individual per pound, we succeed in our efforts to use rational therapeutics. I think Dr. Power's plan is excellent, but not so very much better than the old plan which we all have had in mind of valuing the individual's caloric needs by his weight. There are one or two points which Dr. Power has made which ought to be rubbed into every physician most thoroughly—one is that more typhoid patients are buried from starvation than from any other single cause; another is that although we may know the needs of a normal body, the needs of the sick body we do not always know, and this is a matter to be determined by investigation. I think more stress should be laid on the investigation of the stools as a means of checking up the body needs. This is true in the cases of sick individuals for you may give the patient the adequate number of calories and that many of these calories may be passed into the world with the feces. I believe the time is coming when every physician must be thoroughly conversant with the method of determining food waste in the stool

Wm. C. Voorsanger, San Francisco: Dr Power has been quite exhaustive in dealing with this subject and I agree with the remarks which both he and Dr Porter have made. I am afraid that a good many of us are rather deficient in our knowledge of the caloric value of food stuffs, or we allow ourselves to forget these things We are very much tempted to tell a patient not to eat potatoes but to eat a certain amount of meat, and we do not prescribe how much. We should look upon diet as we do upon medicine. We should prescribe doses. I think we are also going to provide doses of exercise, we are going to outline just what is going to be done in this way. To my typhoid patients I give a pretty full diet—I never starve them any more. I do not believe that it is necessary to actually figure out caloric values; you can do that in hospitals but you cannot in private houses, you cannot tell people that they should take so many calories of food. The principle which Dr. Power wishes to enunciate to night is a very wholesome one and we should take it up here and make up our minds that we are going to feed our patients on a more scientific basis than we have in the past.

Francis Williams, San Francisco: I presume that Dr. Power has it in mind to put this data on a card with a few additional explanatory remarks, in such a way that it can be left with patients for their use. We must have something definite like this that can be passed out to the patient, just as in obstetrical cases you give your patient a list of the things you want provided and the things you want done, and thus they are done. If this data were on a card our patients could be taught to use it, especially after we become more familiar with it ourselves. We hear all the time about people who can live on a meat diet or a vegetable diet, but it takes years and years before the result of such living can be determined. Often the results are not evident until the fortieth or fiftieth year. In cases where we try to reduce obesity we often find patients who assure us they are light eaters, and yet it is difficult to make any change in them, and the only explanation I can give for such cases is that there is also light expenditure of energy, they take less and they spend less.

A. C. McKenny, San Francisco: The paper which Dr. Power has just presented is a very interesting one, it is simple and attractive. I was much interested in the remarks made by Dr. Porter in regard to the examination of the feces. Many times I have found that patients were taking the proper number of calories but expelling practically all of it and deriving no benefit. The examination of feces gives us more definite information than many of us realize. I am heartily in favor of keeping up work of this kind.

H. D'Arcy Power: First, in regard to the value of vegetarian dietaries, it must be clearly understood that there is a minimum somewhere about 1500 calories per day that cannot be diminished without tissue loss. Many of these crank dietaries, doubtless occasionally suitable to certain abnormal organisms, make up at one end what they are de-

ficient of at another; thus as stated the green vegetables and raw fruit provide but so little nourishment, that in normal dietaries their presence can be neglected, but some of the natural food fanatics, while seemingly living on large quantities of these substances are really maintaining themselves on nuts whose oil content gives them a high caloric value. In a general way our appetites are so attuned that the higher the caloric value of a food, the less we naturally desire of it, thus pure fats (butter) and pure sugar (candy) are normally taken in relatively small quantities. Reference was made to the food requirements in sickness. In the fevers these are usually increased rather than diminished. In obesity where the weight is often dependent on water absorption rather than stored fat, the caloric requirements are low. Reference was made to a card of quantitative values and directions. I have long used such an one based on the weight, caloric relation; I am now replacing it by one dependent on the height. I have never had any difficulty in using it, or in getting my patients to follow its indications.

## SOCIETY REPORTS

### ALAMEDA COUNTY.

The regular meeting of the Alameda County Medical Association held September 21st, 1910, was devoted to internal medicine.

The following program was in charge of Dr. Edward Von Adelung:

I. Report of a case of Splenomegaly with Autopsy Findings; 10 minutes. Dr. W. A. Sawyer of Berkeley.

II. Pathological Demonstrations; 10 minutes; Malignant Endicarditis, Gastric Sarcoma. Dr. L. H. Briggs of Oakland.

III. Presentation of a Case of Hookworm Disease (Uncinariasis), patient, ova, worms, blood; 15 minutes. Dr. Edward Von Adelung and Dr. F. H. Bowles of Oakland.

IV. Important Tropical Diseases (lantern illustrations by Dr. W. A. Clarke); 30 minutes. Dr. Creighton Wellman of Oakland.

V. Blood and Urinary Cultures as Diagnostic Aids; 15 minutes. Dr. J. J. Hogan of Vallejo.

VI. Exhibition of X-Ray Negatives (X-Ray treatment of Luekaemia). Dr. L. P. Howe of San Francisco.

These subjects brought out the largest attendance so far this year. Owing to the lateness of the hour and that important business had to come before the society, there was no discussion.

The society extended a vote of thanks to Dr. Von Adelung and the gentlemen who participated in this splendid program.

P. S. NUSBAUMER,
Secretary.

### RIVERSIDE COUNTY.

The first meeting of the Riverside County Medical Society following the summer vacation was held last evening at the Victoria Club. The President, Dr. A. W. Walker, acted as host for the evening. There were but twelve members present, but in spite of the small attendance the meeting was a very enthusiastic one.

The Society went on record as favoring medical inspection of schools by a regular inspector and such a recommendation will be forwarded to the Board of Education. It was also decided that we should place anti-tuberculosis Christmas stamps on sale in Riverside during the holiday season.

The paper for the evening was read by Dr. C. Van Zwalenburg on "Distention as a Result of Obstruction in Cavities Lined with Mucous Membrane."

Following the banquet the Society adjourned about midnight to meet again the second Monday in November.

GEORGE E. TUCKER, M. D., Secretary.

### SAN BERNARDINO COUNTY.

Redlands, Cal., Oct. 15, 1910.

The San Bernardino County Medical Society resumed its weekly meetings the first Tuesday evening in October. The subject of the evening was "Vaccination," which was discussed with especial reference to the enforcement of the State law which makes it compulsory for all school children to be successfully vaccinated. The society went on record as favoring the strict enforcement of the State law, and passed resolutions urging the school trustees and the teachers to co-operate with the medical profession in carrying out this necessary measure in preventive medicine.

The second meeting of the month was devoted to the consideration of the inspection and care of the teeth of all school children and the paper of the evening was presented by A. C. Cameron, D. D. S. This meeting was attended by the principals of the different schools and all of the dentists of the city. A plan is now under way whereby a room will be fitted up in one of the school buildings and each of the dentists of the city will in turn devote half a day each week to the inspection and treatment of the teeth of all children whose parents are not financially able to have this work done.

The third meeting of the month will be devoted to the subject of "Typhoid Fever," and the question of carriers will be the special phase of the question to receive attention.

The fourth meeting will be devoted to the subject of "Surgery," with a paper by Dr. Beckett of Los Angeles.

Beginning with the first of November the society will again take up the post-graduate work as outlined in the Journal of the American Medical Association, which has proven of great benefit the past year.

A new feature which the society is going to add this year is a publicity column in the local newspaper. With the co-operation of the City Board of Health and of the Redlands Anti-Tuberculosis League, the society has arranged for a definite space in one of the local newspapers to be given over to public health and sanitary matters. These articles will appear once a week and all matter will be passed on by a press committee of three from the County Society. It is hoped in this way to get the physicians to take an especial interest in matters of public health and sanitation, and at the same time to instruct the public in such a manner as to make the carrying out of public health measures easier.

The public generally are very much interested in health matters and are going to read something along health lines and it would seem that the wisest course would be for the medical profession to furnish them with the truth instead of letting them be misinformed by laymen.

GAYLE G. MOSELEY, Secretary.

### SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the Moquelumne Club at Lodi, being entertained by the Lodi physicians with Dr. S. J. Hunkin of San Francisco as guest of the evening.

It being the first meeting held since the summer vacation closed, the attendance was unusually large and all the members showed a marked interest in

Society affairs which augured well for the Society for the coming year.

Dr. Hunkin read a paper on "Polio-Myelitis," giving very extensively symptomotology, treatment and affect of the disease as well as the surgical correction of the deformity left as the result of the disease. The paper proved to be one of unusual interest and the same subject would be discussed next month by Dr. Langley Porter of San Francisco.

The Committee on Ethics recently mailed to all the members the copy of the enclosed letter and are endeavoring by every possible means to stamp out the practice of abortion.

B. F. WALKER, Secretary.

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Stockton, Cal., September 23, 1910.

Dr. B. F. Walker, Stockton:

Dear Doctor:—About a year ago, as you are aware, our Medical Society incorporated. One reason for doing so was, that we might adjust our affairs in a more business-like manner and handle cases which come before us with a greater facility. We, the Committee on Ethics have recently had brought to our attention the fact that certain members of our Society are doing abortion work. Such conduct is a disgrace to the medical profession and we are going to use every effort at our command to root it out. Already certain members have been asked to appear before us to answer certain informal charges which have been preferred against them. If they are innocent it will be an easy matter for them to prove their innocence, and they will be glad of the opportunity to vindicate themselves. If they can not answer satisfactorily our report will be taken before the Board of Directors and formal action will be taken against them.

This is not a personal matter with us, but as members of the Committee on Ethics we have been instructed to do away with this and other dishonorable practices in our midst to the best of our ability.

We want the help of every innocent member of the Society, and with that help we will raise the standard of our profession here.

JAMES P. HULL,
CHARLES REES HARRY,
A. M. TOWER,
W. J. BACKUS,
E. A. ARTHUR,
Committee on Ethics.

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## SANTA CLARA COUNTY.

The regular monthly meeting of the Santa Clara County Medical Society was held Wednesday evening, October 19, in the parlors of the St. James Hotel; Dr. J. J. Miller presided.

After the routine business of the evening was finished, Mr. Charles G. Titus, a member of the international committee of the Y. M. C. A., addressed the meeting on some phases of the Y. M. C. A. work of interest to medical men, showing many photographs of gymnasiums, swimming pools, etc., found in some of the well equipped buildings now in use in different cities. After Mr. Titus' talk the society, by unanimous vote, endorsed the movement now on foot in San Jose, to put up a properly equipped Y. M. C. A. building.

Dr. P. A. Jordan then presented a very instructive paper on "Some Borderline Cases of Ear Disease," being a discussion of some of the commoner ear troubles that are often treated by the general practitioner.

Dr. Wm. Simpson then presented a paper on "Diagnosis of Eye Diseases Without the Use of the Ophthalmoscope." This paper was also of great interest to the general practitioners present.

Dr. E. R. Wagner, president of the Santa Clara County Medical Society, is absent from the city visiting some of the eastern cities, and looking over some of the prominent eye and ear hospitals. Dr. Wagner also intends to take up some special studies in Europe, chiefly in Vienna.

Dr. D. A. Beattie, who has been ill for the past two weeks with a severe attack of bronchitis, has recovered sufficiently to leave town for a short while for rest and recuperation.

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### Cooper College Science Club.

The regular monthly meeting of the Cooper College Science Club was held on Monday, Oct. 3rd, 1910. The scientific program was as follows:

I. Exhibition of Medical Cases. Chas. Minor Cooper. Discussion—Drs. Shiels, Luttrell, Rixford, Alvarez, Sewall.

II. A Case of Tubercular Ulcer of the Leg Treated by Electrolysis and Zinc Chloride. E. C. Fleischner and H. H. Yerrington. Discussion—Drs. Rixford, Alderson, Cooper, Yerrington.

Refreshments were served at the close of the program.

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### California Academy of Medicine.

The regular meeting of the California Academy of Medicine was held July 26, 1910.

A paper was read by Dr. H. T. Sherman entitled "Rupture of the Liver, Intestinal Obstruction and Subphrenic Abscess Opening Into Left Pleura." This paper will be published in a later number of the Journal.

Dr. Howard Morrow presented a patient with Dermatitis Herpetiformis and Arsenical Pigmentation.

The last meeting of the Academy was held August 23, 1910.

Dr. W. B. Lewitt read a paper entitled "Report of Five Cases of Infantile Pyloric Stenosis Treated by Repeated Lavage." This paper may be published at a later date.

Dr. Kugeler read a paper reporting three cases of Carcinoma of the Eosophagus.

These papers were discussed by the members present.

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# Notice!

The Register and Directory for 1910 was delivered in November.

Please look through your copy and advise us of any corrections or changes of address.

Please give us the benefit of your criticisms or suggestions for future editions.

## BOOK REVIEWS

**Ionic Surgery in the Treatment of Cancer. By G. Betton Massey, M. D. The A. L. Chatterton Co., New York., 1910.**

The treatment of malignant growths by other means than excision has received considerable attention in recent years. Caustics, the thermo-cautery, X-ray, and radium have been tried and the indications for their use have been better understood. Treatment by ionization has been less extensively studied and consequently is less known so far as its efficacy is concerned. The experience of the author with this method is therefore all the more interesting particularly in view of the claims made for it. Passing over some of the first sections of the book which deal on the nature of malignant growths, the search for the possible cancer germs, the physics of the method, and operative details of ionic applications interest is arrested by the last part of the work which contains the case-histories of individuals treated by ionization. A close study of the histories impresses one most favorably in individual instances, but nevertheless the impression remains that the method has but a very limited application like other procedures which have been more carefully investigated. We do not wish to assume an incredulous attitude regarding the subject nor do we wish to discourage further study of the ionic treatment of cancers, but from the evidence presented by Dr. Massey it is clear to us that it is not destined to outshine other better known methods.

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**Symptomatic and Regional Therapeutics.** George Howard Hoxie, A. M., M. D. D. Appleton & Co., 1910.

In view of the large number of materia medicas and works on therapeutics adorning our library shelves, the arrival of a new work leads us to investigate the author's excuse for his addition to the array. In his preface the author tells us that his work contains: "Material collected for the course in general therapeutics recommended by the Committee on Curriculum of the American Medical Association—a recommendation adopted also by the Curriculum Committee of the Association of American Medical Colleges. Inasmuch as the course forms a transition from the laboratory to the clinic, more attention is given to the discussion of the principles underlying the various methods of treatment than to an elaboration of the relative merits of the various drugs that have been recommended during the centuries of development of the art of healing." The author has succeeded in giving a rather detailed, and consequently practical resumé of the methods of treatment in medical practice. The book can certainly be recommended to students, and likewise to practitioners looking for a simple and rational description of therapeutic methods.

R. B.

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**The Practical Medical Series, Vol. 3. The Eye, Ear, Nose and Throat.** Edited by Casey A. Wood, C. M., M. D., D. C. L., Albert H. Andrews, M. D., Gustavus P. Head, M. D. Series of 1910. The Year Books Publishing Co. Chicago.

This little book is one of a series of reviews and comes as the third volume. It is handily arranged and follows the same general lines as its predecessors. The field is well covered, the indices complete, both as to subjects and authors and the cuts and printing are good.

All interested in the special subjects of eye, ear, nose and throat can keep abreast of the times most readily by such a work, and I therefore heartily recommend it to the profession.

**The Practical Medicine Series.—Volume V, Obstetrics.** Edited by Joseph De Lee, A. M., M. D., Professor of Obstetrics, Northwestern University Medical School. The Year Book Publishers. Chicago, 1910.

This volume, which is one of the well known series, deals with the year's progress in obstetrics. The name of the editor is sufficient guarantee for the thoroughness of presentation. For those who have neither the inclination nor time to follow the literature scattered through numerous journals this book, containing as it does, a résumé of both scientific and purely practical aspects of recent advances in obstetrics, fulfills a distinct need.

In the section on the Physiology of Pregnancy we note references to some points of much interest. The question of early diagnosis of pregnancy still attracts the attention of investigators notwithstanding a clear recognition of the subjective and objective phenomena. Withal, the certain diagnosis often remains difficult and uncertain in the beginning. Naturally under these conditions obstetricians would welcome any method which would make early recognition definite. The work of Fieux and Mauriac seems to be a step in this direction. From a study of the toxic action of the villi the observers claim to have demonstrated the formation of an antibody which may be revealed by the action of the complement in the haemolytic test. The authors apply the haemolytic test with an antigen made from villous masses derived from a two months' human ovum. With this and similar antigens they tested 55 pregnant women and obtained positive results in every case of pregnancy of 2 or 3 months' duration. The findings were negative in all cases under one month and over four. The hope may here be expressed that more work will be carried out along these lines and that something of definite practical value may come from it.

We also note reference to the interesting investigations of L. Loeb on the functions of the corpus luteum in relation to decidual formation. This worker shows most conclusively that the internal secretion of the luteal body sensitizes the uterine mucosa so that normal or mechanical stimuli induce decidual formation. The bulk of experimental work having a bearing on obstetrics relates, however, to eclampsia. Since Lubarsch and Schmorl placed this condition on a clear anatomico-pathological basis there has been much speculation as to the mechanism by which the intoxication is brought about. Some believe that the primary causative factor is resident in the fetus, others in the uterus or placenta, while a few like Ewing still maintain that it is in the kidney. Fehling supported the fetal theory before the Congress at Giessen, claiming that the fetus possessed a metabolism entirely independent of the mother and formed within its tissues haemoglobin, bilirubin, gall and glycogen. A placental origin finds considerable support in the researches of Polano, Schmorl, Freund and others. It has been shown that decidual cells are present in various organs of the body in this disease; and it is believed that the presence of these cells brings about a systemic maternal reaction resulting in the formation of antibodies, called synctiolysins. When present in excessive quantity it is assumed that the body is unable to synthesize them, a condition which leads to eclampsia. The discovery of placental ferments capable of splitting albumen, dissolving red corpuscles, and oxidizing various substances has brought the placenta in still greater prominence during the last year. The results of all this work is briefly summarized in the volume.

In the department of practical obstetrics it is evident from a glance through this little book that the center of interest lies in Caesarian section, vaginal, intra-peritoneal, and extra-peritoneal. The indications for this operation have been much extended in recent years so that it is now utilized not only

in cases of contracted pelvis, but in placenta praevia, eclampsia, and less frequent complications. Judging from the literature the results have been most satisfactory, both maternal and infant mortality having been considerably reduced in certain classes of cases. From a review of last year's literature on hebosteotomy the impression is gained that less enthusiasm has been shown for the procedure, although Williams of Johns Hopkins University in reporting 25 cases expresses a very favorable opinion of the operation.

The perusal of this excellent résumé of the year's progress in obstetrics leaves the very pleasant impression that scientific methods now more than ever before overshadow the empiric practice of a few years ago and that now once and for all time obstetrics takes its place in scientific accomplishment beside its sister specialties, general surgery and gynecology.

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**Dislocation and Joint Fractures.** By Frederic J. Cotton, A. M., M. D. Publishers, W. B. Saunders Company, 1910.

In this volume of 650 pages, Dr. Cotton has adhered closely to the title, so that no mention is made of fractures of the shafts of bones. As a matter of fact, the omission of shaft fractures is of little importance, for he has covered the subject of fractures in and near joints so thoroughly that the principles involved can readily be applied to all fractures, excluding of course a consideration of fractures of the skull, which is really a department of brain surgery. It is decidedly refreshing to find that the book is not filled with old illustrations, so many of which are out-of-date and incorrect. The present volume has 1201 illustrations of which 830 are from drawings by the author. Dr. Cotton deserves much praise for his skill as an artist—his work in that respect is well known to those who have seen Scudder's "Treatment of Fractures." Many roentgenographs have also been utilized to illustrate the text and the author has not hesitated to retouch them when necessary to bring out details. More important than all, however, the author has succeeded in his "Attempt to make the illustrations much more integrally a part of the text than has been the rule in medical book-making."

The experience of the author has been extensive, yet he is modest in his opinions. One of his statements in his Introduction should be of value to those who are apt to be routinists: "There is bound to be a broadening recognition of the fact that each fracture is a mechanical problem in itself, so far, at least, as reduction is concerned. The more we study fractures and luxations, the more we see how definitely they fall into series of roughly constant types; but these types are not constant in detail, and the ancient custom of treating a fracture with a given form of reduction, or putting it up in A.'s or B.'s splint, is no longer adequate practice." Cotton's statement that "Non-union usually means delayed union," might have been questioned a number of years ago, but is true to-day because the practitioner knows better how to care for fractures.

The question of operative treatment of fractures is an important one, and as Cotton's views in this matter are in accord with those of many of the best surgeons in this country, they deserve to be quoted as fully as space will permit: "There is some danger that such operating may get to be too common; already a good deal of unnecessary work is being done, practically by rather inexperienced men. I am not one of those who believe in indiscriminate operating in simple fractures—certainly it is not called for now, nor in the future do I expect that it will be. I do believe, however, that there is a large field of usefulness for those whose experience renders such work reasonably safe and certain, in order to remedy, (or, still better, to prevent) most of those innumerable cases that have been a reproach to the profession—excused in the past because in the past no better results were obtainable, to-day no longer excusable." "Operations should, as a rule, be postponed for a week or ten days from the date of injury; at this time clot organization has begun, and the chance of sepsis is less." There are also many other references to operative treatment in the consideration of special fractures and dislocations. Cotton advocates the simplest means of fixation—kangaroo tendon, nails or staples, but does not favor plates, screws or intramedullary splints. "The less foreign material the tissues have to adapt themselves to, the better." In the employment of drills and screws driven through skin and soft tissues into bone for fixation purposes, the reviewer differs from Cotton. There are many cases of osteomyelitis and infection of the soft tissues following the application of Parkhill's or Lambotte's clamps or other similar apparatus and until we have some positive means of preventing sepsis from external-internal apparatus, we should not employ it. The author has been careful to give each subject its due measure of importance and does not seem to be a faddist in any way. The chapters on dislocations and fractures of the shoulder and elbow are particularly well written. In regard to gunstock deformity of the arm, Cotton emphasizes the point that it is due to a fracture above the condyles of the humerus or to an epiphyseal separation and that it does not result from fracture of either condyle alone.

The book will not be particularly useful to students except for reference, but for the general practitioner and the surgeon it is an authoritative work and will rank with the best we have.

W. I. T.

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## A MENACE TO THE PUBLIC WELFARE.

Washington, D. C., April 28, 1910.

The alarming extent to which habit-forming drugs are used and the various channels through which they reach the public.

United States Department of Agriculture, Division of Publications. Jos. A. Arnold, editor and chief.

In its effort to protect the innocent public against the insidious effects of preparations containing drugs injurious to health, the United States Department of Agriculture has issued another Farmers' Bulletin treating on the subject so nearly connected with public health.

Farmers' Bulletin No. 377, "The Harmfulness of Headache Mixtures," was issued in September, 1909, and 70,000 copies have been distributed to those interested in the subject; now Farmers' Bulletin No. 393, "Habit-Forming Agents: Their Indiscriminate Sale and Use a Menace to the Public Welfare," giving the results of recent investigations by the department, has just been issued as a warning to mothers, invalids, and users of medicated soft drinks, of the dangerous contents of many of the infant syrups, so-called remedies, and soft drinks containing cocain, caffein, etc.

It is almost unbelievable that any one for the sake of a few dollars would concoct for infant use a pernicious mixture containing cocain, but several such mixtures have been found and their names published, together with a list of remedies intended for infants and containing morphin, codein, opium, cannabis indica, heroin, which are widely advertised, and are accompanied by the assertion that they "contain nothing injurious to the youngest babe," and that "mothers need not fear giving them it as no bad effects come from their continued use," while as a matter of fact numerous instances are on record of babies being put to sleep never to wake again, or, where they did not succumb, the more serious effect of infant drug addiction was produced.

Yet the majority of mothers ignorant of these

facts continue the use of these poisons which at least must undoubtedly leave their impression on the delicate organisms of infants and induce tendencies which may develop into the evil habit of drug addiction.

The bulletin contains a list with a photograph of the "original packages" of some of the soft drunks containing caffein and cola leaf extracts, to which it is not uncommon to find persons addicted. It also mentions some of the harmful nostrums advertised as cures for asthma, catarrh, cold, coughs, consumption, epilepsy, and the tobacco habit, and states that some physicians in their prescriptions in treating these diseases and in attempting to cure the "drug habit" itself, often prescribed the very remedies that have produced the conditions which it is proposed to relieve.

This bulletin can be secured by writing to the Secretary of Agriculture, Washington, D. C., to any Senator, Representative, or Delegate in Congress, or it can be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at five cents per copy.

## NOSTRUMS IN A NEW GUISE.

Some time ago an advertisement of an alleged mineral water, or rheumatism water, was sent to the Journal, and in the absence of the editor it was inserted for one issue. The statements appeared to be a little peculiar, so the matter was referred to a chemist of national reputation for his opinion. It should have been published long ago, but the letter got mislaid. In part he wrote as follows:

"I have read the advertisement of the so-called mineral water which appeared in your Journal, and I think that it is the "limit." It is, of course, not a mineral water at all, but instead a rank nostrum. The claims as to its curative value are extreme. The statement of composition is intended, evidently, to hide its real nature. The first substance mentioned, 'diaethylendiamin,' is the chemical name for 'piperazine.' With the second substance mentioned I am not familiar, but shouuld not be surprised if they are trying to refer to 'phenacetin' in such a way that physicians shall not understand them. Chemically, 'phenacetin' may be called 'anido-acet-para-phenetidin,' and it is quite possible that they are trying to refer to this in a disguising way. What 'phonetidum' is, I don't know.

"This product is a good illustration of a general tendency in patent and proprietary medicines. During recent years, patent medicines have come into disrepute with the public—largely, I think, through the exposures in Collier's Weekly. As the result of this, 'cargon' and its thousand or more imitations have been an immense success. 'Cargon,' as you know, is claimed not to be a patent medicine, but instead a 'simple remedy.'

"As the public is becoming suspicious of patent medicines, so the physicians have come to distrust the proprietary remedy; and, as a result of this, manufacturers are no longer putting up typical proprietaries, but instead are selling so-called ethical pharmaceutical preparations which they try to make the physicians believe are not subject to the criticisms which have been made against the proprietary nostrums. Your 'mineral water' is an example. Physicians would hesitate to use a solution of piperazine and something else—but in the guise of a mineral water they are liable to consider it all right.

"The rheumatism water is evidently a sister of Lehn & Fink's piperazine water, referred to by Solman in his article on the 'Aims of the Council' (see J. A. M. A., Feb. 29, 1908, page 704)."

## ARMY MEDICAL CORPS EXAMINATIONS.

The Surgeon General of the Army announces that the first of the preliminary examinations for the appointment of first lieutenants in the Army Medical Corps for the year 1911 will be held on January 16, 1911, at points to be hereafter designated.

Full information concerning the examination can be procured upon application to the "Surgeon General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature, and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant General on or before January 2, 1911. Early attention is therefore enjoined upon all intending applicants. There are at present seventy-six vacancies in the Medical Corps of the Army.

## NEW MEMBERS.

McCoy, A. D. S., Pasadena.
Hromadka, A. B., Ocean Park.
Loomis, M. L., Venice, Cal.
Levengood, W. H., Ocean Park.
Smith, Wm. S., Ocean Park.
Thomas, Wm. S., Ocean Park.
Schoff, C. E., San Francisco.
Null, J. G., San Francisco.
Emmal, F. S., San Francisco.
Hamelin, F. A., San Francisco.
Kearney, P. A., San Francisco.
Nakabayashi, M., San Francisco.
Breyfogle, E. S., San Francisco.
Wrinkle, G. S., San Francisco.
Sullivan, J. F., San Francisco.
Kurozawa, K., San Francisco.
Gouguet, J. L. E., Sisson.
Lewis, C. E., Yreka.
Tebbe, Wm. E., Weed.
Mortensen, W. S., Palms.
Dr. S. L. Kistler, Los Angeles.
Dr. Alexander Jardini, Los Angeles.
Dr. Atticus G. Haywood, Los Angeles.
Dr. E. Henderson, Pomona.
Dr. James R. Cowan, Los Angeles.
Dr. Henry O. Eversole, Los Angeles.
Dr. C. W. Norton, Los Angeles.
Dr. John L. Pomeroy, Monrovia.
Dr. Luis F. Alvarez, Los Angeles.
Dr. Albert J. Scholl, Los Angeles.
Dr. C. A. Wright, Los Angeles.
Dr. A. F. Wagner, Pasadena.
Dr. S. D. Brooks, Los Angeles.
Dr. Leon W. Mansur, Los Angeles.
Dr. J. J. Van Kaathoven, Los Angeles.

## DEATHS.

Selzer, Edward, San Francisco.
Ellis, T. E., Elsinore.
Hewetson, John, Riverside.
Witter, G. F., San Jose.
Huckins, J. W., San Francisco.
Poaps, Allen Perry, San Francisco.
Sherman, Carlos C., Colton, Cal.